People, Parks, And Preservation

A Discussion Paper Prepared for the Alberta Conservation Strategy Project

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People, Parks, And Preservation

Sustaining Opportunities

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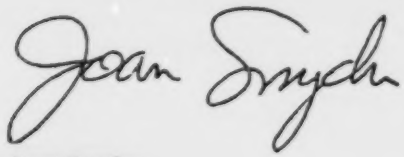
FOREWORD

In late 1985, the Public Advisory Committees to the Environment Council of Alberta began working toward a draft conservation strategy for Alberta. The Public Advisory Committees (PACs), comprising representatives of some 120 non-government organizations, are in many ways an ideal organization for developing a strategy that should touch the lives of all Albertans. The PACs bring together many diverse viewpoints, we are non-partisan, and we have members from across the province. Since the early days of the project, we have welcomed non-PAC participants, and have been delighted to receive the contributions of civil servants, industry spokespeople, academics, and the general public.

We have made much progress since 1985: the *Prospectus for an Alberta Conservation Strategy* was published in 1987 and many meetings and workshops have been held; many sectoral discussion papers have been released; and in 1990, the *Alberta Conservation Strategy: Framework for Action* and the *Framework in Brief* were published. These publications have been presented, for consideration, to the Alberta Round Table on Environment and Economy which is charged with preparing a sustainable development strategy for Alberta.

The Conservation Strategy Steering Committee determined early on to produce background papers on relevant sectors, such as agriculture, fish and wildlife, tourism, oil and gas, and others. These discussion papers look at the issues within each sector, but, more importantly, they investigate the interaction of each sector with the others. Their preparation has involved consulting with a wide range of interest groups — a conservation strategy principle in action — which has proven fruitful in developing ideas about the ultimate conservation strategy. These discussion papers will be used as background information for drafting a conservation strategy document. This report is one in the series of discussion papers.

Because there are as many opinions on our best future direction as there are Albertans, we welcome comments. Alberta's strategy will be only as good as the work that goes into preparing it. Please address any comments on this discussion paper or others in the series, or the *Framework for Action* to the Environment Council of Alberta at the address given on the page opposite. I would also encourage you to make your opinions known at public hearings, consultations, or other events which relate to sustainable use of our resources. Let's treat Alberta as if we plan to stay!



Joan Snyder
Chairperson
Conservation Strategy Steering Committee
Public Advisory Committees to the Environment Council of Alberta

ABOUT THIS DISCUSSION PAPER

Recreation is vital to our well-being and personal development. Everyone recreates in different ways, and variously uses human- or naturally-created settings for leisure. *People, Parks, And Preservation: Sustaining Opportunities* recognizes the need for a range of environments in which people can spend leisure time.

Special attention is also given to protected areas, including provincial and national parks, wilderness areas, and natural areas. *People, Parks, And Preservation* describes the suitability of designated areas for different types of recreation, and for the preservation or conservation of the natural environment. The report also assesses how well represented are the ecological zones within Alberta's system of protected areas. With adequate representation and proper management, places like parks are capable of maintaining the stream of environmental and economic benefits demanded by sustainable development.

People, Parks, And Preservation begins by defining terms used throughout the paper. It then reviews the status and history of the outdoor recreation resources in Alberta, and the benefits derived from them. Future demand and the adequacy of the outdoor resource base is evaluated, followed by an inquiry into the relationship between competitors for the resource base. The author discusses how recreation resources might be managed to effect sustainable development. The report concludes with a description of the legislative and regulatory framework within which outdoor recreation is practised.

Recreation is a product attribute of tourism, Alberta's third largest industry. Readers may find it useful to review *Tourism in Alberta*, a previous discussion paper of the Alberta Conservation Strategy project. Other useful complements include *Reserves for Nature* and a paper on wilderness currently in preparation.

ACKNOWLEDGEMENTS

The preparation of this paper has benefited from the author's contact over many years with professionals from agencies involved with the parks and outdoor recreation field including, Alberta Recreation and Parks, Alberta Forestry, Lands and Wildlife, Alberta Environment, Alberta Culture and Multiculturalism, Alberta Tourism, and the Canadian Parks Service as well as members of environmental groups, particularly the Canadian Parks and Wilderness Society and the Alberta Wilderness Association. Their willingness to share information, opinions, and perspectives on parks and outdoor recreation issues is gratefully acknowledged.

I wish to express my appreciation to all the members of the Environment Protection Sub-Committee of the Public Advisory Committees, Environment Council of Alberta who provided comments or manuscript reviews, especially, Bette Beswick, Miles Scott-Brown, Brett Calverley, Ted Code, and Horst Fauser. Special thanks are also due to Bill Shaw, Red Deer Regional Planning Commission and Dr. B.L. Driver, United States Department of Agriculture Forest Service for their reviews of the initial draft of this document.

I would also like to acknowledge the contribution made by the Environment Council of Alberta staff: Dave Buchwald, Calvin Webb, Mike Kelly, Kim Sanderson, Archie Landals, and Susan Morrow, as well as Carolyn King, who edited the final draft.

While acknowledging all this help, I alone am responsible for the views expressed and for any shortcomings in the final document.

Dr. Guy S. Swinnerton

Contents

ONE: INTRODUCTION 1

CONCEPTS AND RELATED THEMES 2

Resources 2

Conservation and Preservation 3

Sustainable Use 3

Outdoor Recreation 4

Parks 5

TWO: HERITAGE RESOURCES AND THE DEVELOPMENT OF OUTDOOR RECREATION IN ALBERTA 9

HERITAGE RESOURCE BASE 9

HISTORICAL EVOLUTION OF HERITAGE RESOURCE PROTECTION AND OUTDOOR RECREATION 11

Outdoor Recreation Participation 17

THREE: BENEFITS FROM OUTDOOR RECREATION AND PARKS 25

BENEFITS OF OUTDOOR RECREATION AND PARKS 27

Biocentric Perspective 27

Anthropocentric Perspective 28

ECONOMIC VALUATION OF OUTDOOR RECREATION AND PARKS 29

Underlying Concepts 29

Selected Data 30

FOUR: FUTURE PATTERNS OF DEMAND 35

DEMAND FACTORS 35

Population Size and Age 35

Education 35

Leisure Time 36

Personal Income 36

Other Factors 37

FUTURE PARTICIPATION PATTERNS 38

FUTURE LAND REQUIREMENTS 40

Natural Land/Water Base 40

Man-Modified Landscapes 43

Program Expansion 43

FIVE: SUSTAINABLE USE OF PARKS AND OUTDOOR RECREATION SETTINGS 47

IMPLICATIONS OF MULTIPLE USE 47

EXPANDING THE LAND BASE 48

SUSTAINABLE USE OF EXISTING AREAS 50

Park Classification Systems 51

Zoning 51

Recreation Opportunity Spectrum 52

Visitor Management 53

SIX: INTERACTIONS WITH OTHER RESOURCE USERS 55

PRESSURES ON PARKS AND PROTECTED AREAS 55

INTERACTIONS BETWEEN RESOURCE USERS 56

Agriculture 57

Forestry 58

Fish and Wildlife 59

Wetlands 60

Species Protection 61

Mineral Extraction 61

Oil and Gas 62

Urban Development 62

Historic Resources 63

Water Resources 64

Tourism 65

SEVEN: LEGISLATIVE AND REGULATORY REGIME 69

FEDERAL LEGISLATION 69

National Parks Act 69

Canada Wildlife and Migratory Birds Convention Acts 70

Fisheries Act 70

Environmental Assessment and Review Process 70

PROVINCIAL LEGISLATION 70

Provincial Parks Act 70

Wilderness Areas, Ecological Reserves and Natural Areas Act 71

Willmore Wilderness Park Act 71

Public Lands Act 71

Wildlife Act 72

Forests Act 72

Department of the Environment Act 72

Historical Resources Act 73

Planning Act 73

Recreation Development Act 74

Recreation, Parks and Wildlife Foundation Act 74

INTERAGENCY COORDINATION AND COOPERATION 74

NON-INSTITUTIONAL ENVIRONMENTAL MOVEMENT 75

EIGHT: CONCLUSION 77

REFERENCES 79

Tables

1. Distinguishing Characteristics of Resource Preservation, Conservation and Exploitation 4
2. Objectives of the Various Classes of Parks and Protected Areas within Alberta Recreation and Parks, Conservation-Outdoor Recreation System 6
3. Crown Lands with Protected Status in Alberta 10
4. Status of Lands in Alberta 14
5. Selected Landmark Dates with Relevance to Heritage Resource Protection and Outdoor Recreation in Alberta, 1885-1929 16
6. Selected Landmark Dates with Relevance to Heritage Resource Protection and Outdoor Recreation in Alberta, 1930-1969 17
7. Selected Landmark Dates with Relevance to Heritage Resource Protection and Outdoor Recreation in Alberta, 1970-1979 18
8. Selected Landmark Dates with Relevance to Heritage Resource Protection and Outdoor Recreation in Alberta, 1980-1989 20
9. Alberta Households' Favorite Recreation Activities, 1981 and 1988 22
10. Taxonomy of Wilderness Benefits 26
11. Mean Dollar Expenditures and Percentage of Total Expenditures by Albertans on Leisure Activity, 1981 and 1984 31
12. Estimated Wildlife Expenditures by Residents of Alberta, 1981 32
13. Summary of Park-Related Expenditures and Resulting Economic Impacts, 1984/85 33
14. Summary of the Estimated Economic Significance of Recreation in Alberta as Measured by Expenditures, 1983 34

Figures

1. National Parks and Green and White Areas in Alberta 12
2. Parks and Wilderness Areas in Alberta 13
3. Top Twenty Recreation Activities of Alberta Households, 1988 21
4. Number of Visitors to National Parks in Alberta, 1975-1988 23
5. Natural Regions of Alberta 41

Chapter One

Introduction

The purpose of this discussion paper is to examine the resource base of Alberta for parks and outdoor recreation in terms of the three objectives of the *World Conservation Strategy* (International Union for Conservation of Nature and Natural Resources [IUCN] 1980) and the specific requirements of a Conservation Strategy for Alberta as proposed in the *Prospectus for an Alberta Conservation Strategy* (Public Advisory Committees to the Environment Council of Alberta [PAC] 1987). The three stated objectives of the World Conservation Strategy are:

1) to maintain essential ecological processes and life-support systems;
2) to preserve genetic diversity;
3) to ensure the sustainable utilization of species and ecosystems.

The three additional objectives set out in the *Prospectus for an Alberta Conservation Strategy* are:

4) to provide for the recreational, spiritual, aesthetic, and other non-material needs of Albertans;
5) to maintain and improve the quality of life in the urban environment;
6) to use and manage non-renewable resources in the interests of developing a long-term sustainable economy for Albertans.

Although parks and outdoor recreation have both active and reactive roles in the pursuit of all of these objectives, they have particular significance for two of them. First, the *World Conservation Strategy* makes reference to the role of parks, as protected areas, in the preservation of genetic diversity and as representative samples of ecosystem types. Second, parks and outdoor recreation have a crucial role to play in meeting the spiritual, aesthetic, and other non-material needs of Albertans.

Although parks and outdoor recreation are being considered as one sector for the purpose of compiling the background report, it is important to appreciate that they are separate but interrelated uses of the resource bases. Parks are indispensable settings for many forms of outdoor recreation but they are only one component of the total outdoor recreation-open space system which is potentially available to Albertans and visitors to this province. For example, the importance of forested areas (Sadler 1978) and agricultural land (Swinnerton 1982) in providing recreation opportunity settings has been clearly demonstrated in the Alberta context. At the same time, parks exist within a system of designated land units, the primary purpose of which is to conserve or preserve representative ecosystem types and landscapes or unique or exceptional biological or geological features. As a result, the range of recreation activities which can take place within certain categories of parks has to be restricted in order to effectively achieve the conservation and preservation mandate. The responsibility of providing opportunities for recreation while preserving the natural and cultural heritage is a particular dilemma for national park and provincial park agencies (Swinnerton 1989).

CONCEPTS AND RELATED THEMES

Despite the common usage of such terms as *resources*, *conservation*, *preservation*, *sustainable use*, *parks* and *outdoor recreation*, considerable confusion continues to exist regarding their precise meanings. This chapter provides clarification of these terms.

Resources

Ciriacy-Wantrup (1968:28) has suggested that the "concept 'resource' presupposes that a 'planning agent' is appraising the usefulness of his environment for the purpose of obtaining a certain end." Traditionally, the concept of resources was confined to those land and natural resources necessary for the production of basic and marketable commodities (O'Riordan 1971). Consequently, resources were classified on the basis of their renewability or substitutability in relation to a human time scale. The distinction was therefore made between *non-renewable* or *stock resources* (for example, minerals), which are not replenished at any rate that is meaningful to society, and *renewable* or *flow resources* (for example, forests, pastures, wildlife), where the rate of renewal is significant relative to the rate of use by society (see Ciriacy-Wantrup 1968; Randall 1981). An important characteristic of flow resources is that, dependent upon the management strategy adopted, they can either be depleted, sustained, or increased.

A more recent and broader interpretation of resources involves the concept of *amenity resources* (Perloff 1969). Amenity resources are generally considered to be those resources which contribute to the quality of life and the environment, and which go beyond life's basic necessities (Coppack 1985). They include landscape aesthetics, the character of open space, non-consumptive wildlife values, and the integrity of irreplaceable natural and cultural environments. Amenity resources may also encompass man-made changes or additions to the environment such as buildings, archaeological artifacts, and landscapes, which illustrate the way in which people have purposely manipulated the natural environment. These too are frequently important resources for recreation and tourism (see Landals 1988; Wight 1988).

Two observations are significant with regard to amenity resources. First, there is a growing appreciation of the fact that many of the scarce elements of our environment are of a non-commodity or amenity nature. Second, although amenity resources are not consumable commodities in the conventional sense and as such do not have a direct market price, this situation should not preclude consideration of their important extra-market benefits and values (Coppack 1985).

The amalgamation of natural and cultural resources is being increasingly referred to under the collective term *heritage resources*. At the Heritage for Tomorrow Assembly conference, heritage was defined as follows:

> *It [heritage] is seen as the existing context of the past, including all natural, historic and cultural resources. It is envisioned as a common property whose benefits, costs and obligations are the inheritance of all persons, present and future.* (Nelson, Scace, Sadler, Lemieux, and Washington 1986:28)

Alberta Recreation and Parks (1986:87) in its *Policy Statement for the Ministry of Recreation and Parks: Revised Draft* refers to heritage resource protection as "... the protection of the natural, historical, and cultural landscapes and features of the province."

This discussion paper is primarily concerned with amenity and heritage resources from two perspectives: first, the way in which protected areas and outdoor recreation can demonstrate sustainable use and environmental stewardship; and second, the way in which these areas and outdoor recreation opportunities are affected by

the production procedures and consumption patterns of other resource interests and activities.

Conservation and Preservation

Considerable confusion prevails with regard to the distinction between *conservation* and *preservation*. Recognition of the distinction between these two terms is not simply a matter of semantics but is necessary to illustrate the reasons for some of the underlying confusion and conflict which are frequently associated with decisions involving resource allocation between different resource interests and agencies.

Reduced to its basic meaning, and one which finds a wide degree of acceptance, conservation is synonymous with a philosophical and conceptual framework involving the optimum use of resources over time. The *World Conservation Strategy* (IUCN 1980) includes the following definition of conservation:

> *... the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations.* (IUCN 1980)

Inherent in such broad definitions of conservation are three perspectives: (1) resource utilization, (2) maintenance of environmental quality, and (3) preservation and protection (Green 1981). These three kinds of conservation are not entirely mutually exclusive but neither can it be assumed that the pursuit of one kind automatically incorporates or subsumes the other two. The distinction between conservation and preservation has recently been acknowledged by Alberta Recreation and Parks (1986) in the revised draft of the *Policy Statement for the Ministry of Recreation and Parks:*

> *Although "preservation" and "conservation" are both forms of heritage resource protection, they have different meanings and distinct aims. Preservation is not simply a less compromising form of conservation, but rather is the retention of the integrity, authenticity and intrinsic value of a resource in perpetuity. Conservation, on the other hand, is viewed as the capability of a resource to provide an opportunity or function while maintaining its capability to meet the needs and aspirations of future generations.* (Alberta Recreation and Parks 1986:8)

Failure to recognize the distinction between conservation and preservation is a continuing problem in the field of resource planning and management, and particularly in those circumstances where amenity resources are involved (Swinnerton 1984, 1989).

Table 1 illustrates that the fundamental principles and philosophies inherent in society's approach to preservation and conservation are sufficiently different to regard them as distinctive forms of protection.

Sustainable Use

Inherent in the principle of conservation is the concept of sustainable use. In *Alberta Conservation Strategy: Framework for Action (A Draft for Public Discussion)* (1990) sustainable development has been defined as the

> *management of resources in such a way that we can fulfill our economic, social, cultural, and aesthetic needs while maintaining the essential ecological processes, biological diversity, and naturally occurring life support systems within Alberta.* (Public Advisory Committees 1990:5)

With reference to outdoor recreation and park values, sustainable use is most frequently expressed in terms of *carrying capacity*. This concept has traditionally been based on the premise that if no limit is put on the level of use of an area, then eventually the level of impact will be unacceptable for the environment and/or the experience of the user. Although carrying capacity is a management concept which incorporates

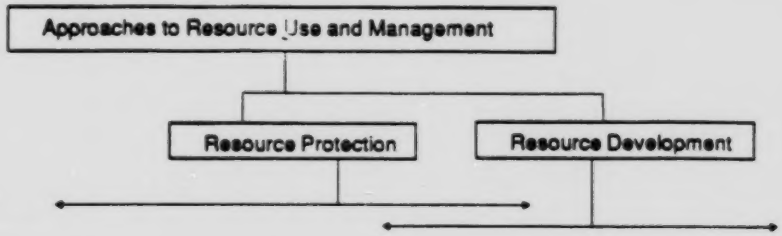
principles from both the social and natural sciences, considerable debate continues to exist as to the measurement and application of the concept (Shelby and Heberlein 1986).

Outdoor Recreation

Most people have an intuitive feeling of what is implied by the term *recreation*, but considerable confusion exists as to what constitutes an adequate definition of the concept.

Acceptance of a specific definition of recreation is not critical to this discussion paper. What is important, is that recreation cannot be defined solely in terms of a list of specific activities which are somehow inherently recreational. Clawson and Knetsh (1971) observed that it is the attitude

Table 1. Distinguishing Characteristics of Resource Preservation, Conservation and Exploitation



	Preservation	Conservation	Exploitation
DISTINGUISHING CHARACTERISTICS			
Frame of Values	Ethical	Social/Economic	Economic
Perspective to Resource	Biocentric/Anthropocentric	Anthropocentric	Anthropocentric
Constraints on Levels of Use	Conscience/Ecology	Conscience/ Ecology/ Science/ Technology	Science/ Technology/ Economics
Type of Use	Non-use/Vicarious/ Appreciative/ Non-consumptive	Appreciative/ Consumptive	Consumptive
Level of Use	Retention of Integrity and Authenticity	Sustained Yield	Depletion/ Exhaustion
Output/Outcome From Use	Human experience/ Satisfaction/ Intrinsic benefits/ Future options	Human experience/ Market product/ Intrinsic benefits/ Extrinsic benefits/ Future options	Market product/ Extrinsic benefits
Ability to Accommodate Other Uses	Difficult	Possible/Probable	Possible
Timing of Resource Use	In perpetuity	Long term	Short term

Source: Swinnerton (1984:139)

with which an activity is undertaken rather than the activity itself which distinguishes it as recreation. In accepting this psychological dimension of recreation, attention is focused on understanding the motivation which lies behind the engagement and the benefits that are derived from it, as well as on the observable activity itself (Driver and Tocher 1970).

In this discussion paper, therefore, the term *recreation* is used to encompass any activity which is undertaken on a voluntary basis during leisure time for personal enjoyment and satisfaction. Although the term *activity* is used in the text, it is being applied in a manner which incorporates the psychological dimension of recreation. Complementing this focus is consideration of amenity resources and heritage values to the extent that they are important attributes of recreation settings and the resultant quality of the recreation experience.

The intended outcome of involvement in outdoor recreation is for the participant to realize satisfying experiences. However, it is widely acknowledged that in seeking satisfaction, recreationists demonstrate a wide range of tastes and preferences. As a result, recreation planners and managers have attempted to respond to this need by providing a set of recreation opportunities with the intent of facilitating quality recreation experiences. Although this approach is not new, considerable progress has been made during the past decade to formalize the concept and make it operational for recreation planning and management. The outcome is the recreation opportunity spectrum (ROS) concept which provides an organizing framework for examining recreation opportunities ranging from primitive to developed settings (United States Department of Agriculture 1982). These settings involve the interaction of the biophysical, social, and managerial characteristics of an area or site.

Parks

The term *park* also eludes precise definition. As a generic term it is usually considered to refer to an area of open space which is dedicated to recreation and/or the protection of heritage resources. Consequently, within a comprehensive park system, specific park types may serve an almost exclusively recreation function whereas others have a predominantly conservation or preservation mandate. Table 2, for example, not only illustrates the different objectives of provincial parks in Alberta but also provides a basis for comparison between parks and the other major components of Alberta Recreation and Parks' conservation-outdoor recreation system in terms of their respective conservation-recreation priorities. Consideration of the broader provincial conservation-outdoor recreation system necessitates recognition of the roles of: federal government agencies through national parks and national wildlife areas; other provincial agencies such as Alberta Forestry, Lands and Wildlife, Alberta Environment, and Alberta Culture and Multiculturalism; municipal levels of government through municipal parks and the Urban Parks Program; and the private sector both in terms of private landowners and public interest groups.

One of the major changes in recent years has been the recognition that long-term benefits from specifically designated parks or recreation areas can be maintained only if these areas are complemented by land-use ethics being integrated into all aspects of land-use planning and management. To this end, a more holistic conservation approach has to be developed involving both the private and public land base of this province. The implementation of a conservation strategy provides the basis whereby this goal can be achieved.

Table 2. Objectives of the Various Classes of Parks and Protected Areas within Alberta Recreation and Parks' Conservation-Outdoor Recreation System

	Ecological Reserves	Wilderness Areas	Provincial Parks	Recreation Areas
Legislation	Wilderness Areas, Ecological Reserves and Natural Areas Act	Wilderness Areas, Ecological Reserves and Natural Areas Act	Provincial Parks Act	Provincial Parks Act
Purpose	Areas selected as representative or special natural landscapes and features of the province, and protected as examples of functioning ecosystems, as gene pools for research to benefit present and future generations, and for education and heritage appreciation purposes.	Large areas of undeveloped land retaining their primeval character and influence without permanent improvements or human habitation, where natural processes continue relatively unaffected by by human influences and where visitors travel by non-mechanized means and experience solitude and personal interaction with nature.	Areas which integrate and protect outstanding recreational landscapes and provincially significant natural, historical and cultural landscapes and features to provide high quality recreational and educational experiences.	Areas which provide and/or support a wide diversity of extensive and intensive outdoor recreation opportunities in natural, modified or man-made settings.
Objectives				
Protection	Protects a system of provincially significant representative and special natural ecosystems and features in order to ensure the protection and perpetuation of genetic materials and natural ecological units.	Protects provincially significant wilderness landscapes.	Protects a system of provincially significant representative landscapes or environments which incorporate the greatest possible diversity of provincially significant biophysical resources, provincially significant landscape-related prehistorical and historical resources and outstanding opportunities for high-quality extensive and intensive outdoor recreation.	May protect provincially or regionally significant natural landscapes and/or significant or unique natural features.
Heritage Appreciation	Provides opportunities for unstructured individual exploration and appreciation of the natural resource heritage of Alberta to the extent that is compatible with, and complementary to, the protection of natural resource features. Provides	Provides opportunities for unstructured exploration and appreciation of the wilderness heritage of Alberta to the extent that is compatible with, and complementary to, the preservation of wilderness environments. Provides opportunities	Provides opportunities for exploration of natural, historical, and cultural landscapes and features through a full range of interpretive and educational programs which reflect the diversity of resources and features in these	Provides opportunities for unstructured exploration and appreciation of natural landscapes and features. Provides opportunities for exploration and appreciation of natural, historical, and cultural environments

(continued next page)

Table 2. continued

	opportunities for exploration and appreciation of natural environments through formal interpretation and education programs in certain Ecological Reserves based upon the character and significance of Ecological Reserves and to the extent that is compatible with, and complementary to, the protection of natural resource features.	for exploration and appreciation of natural environments through low-key interpretation programs in selected Wilderness Areas which provide to users opportunities to learn and experience the meaning and purpose of wilderness within Alberta's society.	areas. Provides opportunities for unstructured individual exploration and appreciation of natural, historical, and cultural landscapes and features to the extent compatible with, and complementary to, the protection of the heritage resources.	through interpretive and educational programs to reflect the diversity of resources and features in these areas.
Outdoor Recreation	Non-consumptive, nature-oriented recreation use may be permissible subject to management guidelines.	Provides wilderness travel and camping opportunities; the recreational experience is characterized by solitude, challenge, and personal interaction with the natural environment.	Provides day-use, facility-based camping and associated opportunities in areas of outstanding recreational potential in a natural, historical, and cultural setting. Provides opportunities in selected provincial parks for backcountry travel and camping where the recreational experience is characterized by solitude, challenge, and personal interaction with nature.	Provides day-use, facility-based camping and associated opportunities in natural, modified, or man-made settings. Provides opportunities for a variety of dispersed outdoor recreational opportunities, including both mechanized and non-mechanized activities and consumptive and non-consumptive uses in an integrated resource management setting.
Tourism	Provides ecologically based opportunities for visitors subject to management guidelines (not a priority objective).	Provides Albertans with opportunities to experience wilderness environments; attracts visitors to Alberta to experience wilderness environments.	Provides a variety of natural environment-based recreation opportunities and services conducive to tourism development and promotion in the province. Provides Albertans and visitors with opportunities to explore and experience the distinctive natural, historical, and cultural landscapes and features of Alberta. Encourages the development of private sector involvement in the supply of complementary facilities and programs within, or in association with, provincial parks.	Provides a variety of recreation opportunities and services conducive to tourism development and promotion in the province. Supports and encourages the development of private sector involvement in the supply of complementary facility and program bases within, or in association with, Recreation Areas.

Source: From Alberta Recreation and Parks (1986:68-69)

Chapter Two

Heritage Resources and the Development of Outdoor Recreation in Alberta

HERITAGE RESOURCE BASE

Outdoor recreation is a land-use activity, and access to and the use of the resource base is an essential component of many recreation activities and associated experiences. Attributes of the natural and cultural environment both attract and influence the types of recreation opportunities that are available in an area. The diversity of the biophysical resource base and the legacy of historical and cultural resources in Alberta have been recognized as significant factors in sustaining and promoting recreation and tourism in the province (Government of Alberta 1985; Landals 1988; Wight 1988).

Traditionally, both the rural and urban environment provided the impromptu setting for many outdoor recreation activities. During the twentieth century, however, the gradual establishment of an institutionalized recreation delivery system has meant that increasing emphasis has been put on the provision of organized programs and the formal designation of land specifically for preservation and recreation purposes. Not infrequently, recreation has co-existed with heritage resource protection in areas such as national and provincial parks, wilderness areas and natural areas.

Areas protected by legislation comprise approximately 10.5 percent of Alberta (Table 3). The inclusion of historic resources which are afforded formal protection increases the protected areas by approximately a further one percent of the province's area (Swinnerton 1984).

Some of the more significant designations are as follows.

There are five *national parks* in Alberta: Elk Island, Jasper, Banff, Waterton Lakes and Wood Buffalo (Figure 1). The 54,084 square kilometres included within their boundaries cover about 8.2 percent of Alberta's area and account for approximately 78 percent of Crown lands with protected status in the province. Protecting representative natural areas of Canadian significance is the primary objective of national parks. The provision of recreation opportunities and visitor management is intended to be in accordance with the maintenance of ecological integrity.

The purpose and objectives of *provincial parks* are summarized in Table 2. There are 61 provincial parks in Alberta which cover 1,258 square kilometres (Figure 2). This area accounts for 0.19 percent of Alberta's area or 1.8 percent of Crown lands with protected status. Although provincial parks have the dual function of resource protection and recreation, the latter is the predominant role in many of the parks. The five largest provincial parks (Cypress Hills, Dinosaur, Lesser Slave Lake, Notikewin and Peter Lougheed) contain three-quarters of the provincial park system's area. In contrast, many of the remaining parks are too small to accommodate the more extensive forms of outdoor recreation or to provide an adequate land base for wildlife conservation.

Table 3. Crown Lands with Protected Status in Alberta, 1988

	AREA	
Under Legislation	**Square Kilometres**	**% of Alberta**
National Parks	54,084	
Provincial Parks	1,258	
Natural Areas	400	
Forest Land Use Zones	5,643	
Provincial Recreation Areas	34	
Willmore Wilderness Park	4,597	
Wilderness Areas	1,010	
Bird and Wildlife Sanctuaries	693	
Forest Recreation Areas	1,214	
Ecological Reserves	178	
TOTAL	**69,111**	**10.45**
Under Protective Reservation		
Ecological Reserves	419	
Natural Areas	636	
Recreation Areas and Proposed Provincial Parks	561	
TOTAL	**1,616**	**0.24**
Under Military Reservation	**8,517**	**1.29**
Under Protective Zoning		
Eastern Slopes		
Prime Protection Zoning	12,977	
Critical Wildlife Zoning	6,524	
Within Integrated Resource Plans outside the Eastern Slopes	3,781	
TOTAL	**23,282**	**3.52**

Source: From Alberta Forestry, Lands and Wildlife (1989a:13)

Three *wilderness areas* (White Goat, Siffleur, and Ghost River) have been established in Alberta (Figure 2). These areas are given the highest degree of legislated protection in Alberta (Table 2). Wilderness areas account for 0.15 percent of the province's area.

Willmore Wilderness Park (4,597 km^2) is designated under its own Act. Unlike the three wilderness areas which are the responsibility of Alberta Recreation and Parks, Willmore Wilderness Park comes under the jurisdiction of the Alberta Forest Service. A wider range of recreation activities is permitted within Willmore Wilderness Park including hunting.

Ecological reserves are intended to protect representative examples of Alberta's natural regions and biogeographical zones and to preserve rare and unique species and natural features (Table 2). Eleven ecological reserves have been created to date and a further three candidate areas have been reviewed. Existing reserves range in size from 3,774 hectares, to 830 hectares with an average size of 1,917 hectares.

Natural areas are managed by the Public Lands Division of Alberta Forestry, Lands and Wildlife. They are designated to protect sensitive or scenic public land from disturbance and to ensure the availability of public land in a natural

state for use by the public for recreation and education. Currently there are 112 designated natural areas and another 145 sites are under reservation for potential formal establishment.

Forest land use zones are established under the Forests Act and are areas to which legislative controls are applied to solve specific land-use problems. The zones are used to protect environmentally sensitive backcountry areas from motorized vehicle activity and to protect critical wildlife areas. There are ten forest land use zones in Alberta covering 5,643 square kilometres.

Although areas with protected status are extremely important components of Alberta's heritage conservation-outdoor recreation resource base, a substantial amount of outdoor recreation takes place outside areas specifically designated for such purposes (Interdepartmental Task Force on Land-Use Policy 1980; Sadler 1978; Swinnerton 1982, 1984).

The designation of lands with protected status and patterns of outdoor recreation activity demonstrate the strong dependence on the availability of public land (Swinnerton 1987). In this regard it is widely acknowledged that the advantages of public ownership include: the greater likelihood of provision for public access; consideration of non-market values; and an integrated approach to resource planning and management which can frequently accommodate recreation and heritage resource protection interests.

Reference to Table 4 shows that in addition to the approximately 10 percent of the province designated as parks and related areas, a further 53.1 percent is accounted for by non-settled or vacant public lands. The majority of this area occurs within the Green Area (forested lands, withdrawn from settlement, managed for forestry and other multiple uses, see Figure 1) and provides an important recreation opportunity for Albertans and visitors to the province, particularly in the Eastern Slopes sector (Figure 1) of the Green Area (Sadler 1978). However, the increasing diversity and intensity of uses that these areas are expected to accommodate raise serious management issues for the more sensitive forms of land use such as heritage resource protection.

Although public land within the settled White Area is limited in extent, its potential contribution to the heritage conservation-outdoor recreation system is critical in two ways. First, these areas provide opportunities for outdoor recreation in close proximity to the user population. Second, these areas of public land provide important islands of predominantly natural landscape in an otherwise largely cultivated and developed environment. In this context they have an important role to play as reserves for nature with or without protective status.

Notwithstanding the importance of the public land base for heritage conservation and outdoor recreation, private lands are likely to make an increasingly important contribution to these programs in the future (see Alberta Recreation and Parks 1986; Glasgow 1982; Swinnerton 1982, 1984; Wildlife Habitat Canada 1987).

HISTORICAL EVOLUTION OF HERITAGE RESOURCE PROTECTION AND OUTDOOR RECREATION

The historical evolution of heritage resource protection and outdoor recreation can be arranged into four phases.

Phase One: 1885-1929 – Pre Alberta Natural Resources Act

Phase Two: 1930-1969 – Institutionalization of Heritage Resource Protection and the Growth of Outdoor Recreation

Phase Three: 1970-1979 – Resource Management and the Systems Perspective

Phase Four: 1980-1989 – Reassessment and Consolidation

The major trends occurring within each of the time phases are briefly described in the text. Tables 5 to 8 identify the more important landmark dates for heritage resource protection and outdoor recreation in Alberta.

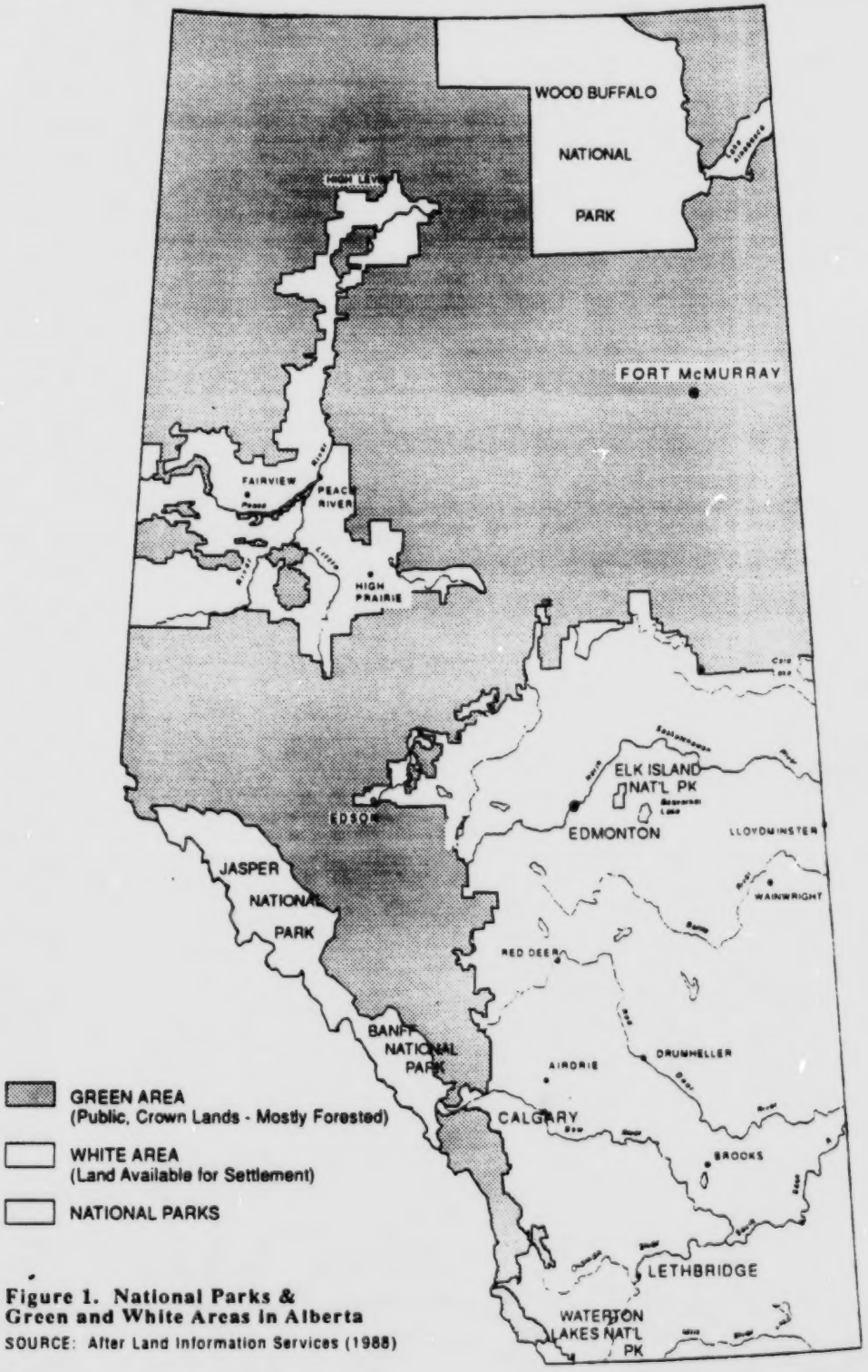


Figure 1. National Parks & Green and White Areas in Alberta

SOURCE: After Land Information Services (1988)

Figure 2. Parks and Wilderness Areas in Alberta
SOURCE: After Land Information Services Division (1989)

Phase One: 1885-1929 - Pre Alberta Natural Resources Act.

Due to the fact that the control and administration of natural resources were retained by the federal government until 1930, direct involvement of Alberta's provincial agencies in heritage resource protection did not occur until after that date. Conservation interests prior to 1930 were mainly demonstrated through the federal government's involvement in national parks and wildlife, the rural land-use component of statutory planning, and the work of volunteer groups. Involvement in recreation outside the larger urban centers was predominantly local and community based (Table 5). Recreation development was mainly focused on games, physical fitness, sporting activities, playgrounds, and municipal parks.

Phase Two: 1930-1969 - Institutionalization of Heritage Resource Protection and the Growth of Outdoor Recreation.

The Alberta Natural Resources Act (1930) transferred control of the province's natural resources to the provincial government. The province's direct involvement in heritage resource protection and outdoor recreation was demonstrated through the passing of the Provincial Parks and Protected Areas Act (1930). For the next 20 years, provincial parks were limited in size and served a predominantly recreation role for local popula-

Table 4. Status of Lands in Alberta

	AREA	
	Square Kilometers	% of Alberta
Privately Owned Land	184,915	28.0
Public Lands		
Under Disposition Leading to Title	2,657	0.4
Under Disposition Not Leading to Title*	27,990	4.2
Special Areas*	12,046	1.8
Provincial Parks, Wilderness Areas	2,334	0.4
Willmore Park, Natural Areas, Ecological Reserves	5,175	0.8
Metis Settlements	5,053	0.8
Indian Reserves	6,566	1.0
Non-Settled Public Lands		
Forested Lands (within the Green Area)	276,232	41.8
Forested Management Agreement Areas and Provisional Reserve	57,158	8.6
Vacant Public Land (within the White Area)	17,936	2.7
Federally Controlled Lands (National Parks, Research stations, Department of National Defence, etc.)	63,123	9.5
TOTAL AREA OF ALBERTA	661,185	100.0
Land	644,389	97.5
Water	16,796	2.5

Source: From Alberta Forestry, Lands and Wildlife (1988a:12)
Note: * Includes some tax recovery lands

tions. The demand for parks and recreation increased considerably during the 1950s, reflecting a more favorable economy and greater personal mobility. Although there was a major increase in the number of parks during this period, including the establishment of some larger parks, their primary role continued to be the provision of family recreation opportunities (Mason 1988).

By the beginning of the 1960s, there was a growing recognition of the resource protection role of provincial parks (Table 6). This was complemented by the passing of the Wilderness Provincial Park Act in 1959 and the establishment of three wilderness areas (White Goat, Siffleur, and Ghost River) before the end of the 1960s. On the demand side, participation in most outdoor recreation activities increased throughout the 1960s and into the 1970s (Swinnerton 1982)

Phase Three: 1970-1979 – Resource Management and the Systems Perspective.

During the 1970s, there was a proliferation of legislation and policy development concerned both directly and indirectly with heritage conservation and the quality of the environment (Table 7). Of particular relevance to parks and outdoor recreation was a new provincial parks policy in 1973 (Alberta Department of Lands and Forests 1973), the Wilderness Areas Act in 1971, the initiation of a program for integrated planning for Alberta's public lands in 1977 and the publication of the Eastern Slopes Policy (Alberta Energy and Natural Resources 1977).

The latter part of the 1970s revealed a growing need for a systems perspective toward recreation and open space planning at the national, provincial, and regional levels. Indicative of this trend was *Putting the Pieces Together: An Alberta Provincial Park System Plan* (Alberta Recreation, Parks and Wildlife 1977). This study suggested that a provincial park system must be viewed as one component of a broader provincial system of resource use, planning, management, and utilization, the aim of which was to create an optimum balance between preservation and development. *Putting the Pieces Together* and a number of other reports prepared during the late 1970s pointed to the complex relationship between the mandates of the different agencies involved in conservation and outdoor recreation, and their respective policies and program activities. A major theme of many of these reports was the growth in outdoor recreation participation and the vulnerability of natural environments to potential destruction from other forms of resource use as well as from excessive use by certain forms of outdoor recreation (Swinnerton 1984).

Phase Four: 1980-1989 – Reassessment and Consolidation.

The beginning of the 1980s witnessed a new Provincial Parks Act (1980, amended in 1983) and the passing of the Wilderness Areas, Ecological Reserves and Natural Areas Act (1980). The latter Act clarified the relationship between the three categories of protected areas and formally recognized the status of ecological reserves.

Two distinguishing characteristics of the 1980s, which were not entirely unrelated, were the downturn in the provincial economy and a reassessment and consolidation by many agencies of their mandates regarding heritage conservation and outdoor recreation. One reaction to the economic downturn has been a focus on fiscal restraint and improved cost-effectiveness in both programs and service delivery. The other response has been to examine ways in which government departments could contribute to the economic recovery of the province. This latter response has been illustrated through a more permissive and deregulatory approach to some elements of resource management (for example, the revised Eastern Slopes Policy [Alberta Energy and Natural Resources 1984a]) and the encouragement of private sector involvement in the provision of outdoor recreation opportunities and heritage conservation (Table 8).

The 1980s also witnessed the development of a number of important policy statements with implications for heritage conservation and out-

door recreation. These statements included the *Fish and Wildlife Policy for Alberta* (Alberta Energy and Natural Resources 1982b) and the *Alberta Forest Service Recreation Program Goals, Policies, Long Range Objectives, Priorities and Budget Guidelines* (Alberta Energy and Natural Resources 1982a), the Government of Alberta (1985) *Position and Policy Statement on Tourism*, Tourism Canada's (n.d.) *Tourism Tomorrow: Towards a Canadian Tourism Strategy*, and the report of the Minister of Environment's Task Force on Park Establishment (1987) *Our Parks – Vision for the 21st Century*. The most comprehensive undertaking, and one which has the more wide ranging implications for heritage resource protection and outdoor recreation in Alberta, has been Alberta Recreation and Parks' (1986) involvement in preparing a statement of its mandate and responsibilities. Further reference to these policy documents is made in subsequent chapters of this report.

Table 5. Selected Landmark Dates with Relevance to Heritage Resource Protection and Outdoor Recreation in Alberta, 1885 - 1929

1885	Banff Hot Springs set aside as a Crown reserve
1887	Rocky Mountains Park Act established Rocky Mountains Park (subsequently called Banff National Park)
1887	Last Mountain Lake, Saskatchewan, first bird sanctuary in Canada
1895	Waterton Lakes National Park established
1906	Alpine Club of Canada established
1906	Alberta Natural History Society founded
1907	Jasper National Park established
1908	Buffalo National Park established (abolished 1925)
1909	Canadian Commission of Conservation established
1910	Alberta Audubon Society established in Edmonton
1911	Miniatik Bird Sanctuary established
1911	Dominion Forest and Reserves Act
1913	Elk Island National Park established
1914	Wawaskesy National Park established (abolished 1930)
1915	Nemiskam National Antelope Park established (abolished 1947)
1917	Canada Migratory Birds Convention Act
1922	Wood Buffalo National Park established
1922	Gaetz Lake Sanctuary established
1923	National Parks Association founded
1928	Act to Facilitate Town Planning and the Preservation of the Natural Beauties of the Province
1928	Alberta Fish and Game Association founded

Outdoor Recreation Participation

Involvement in some form of outdoor recreation has become an integral part of the lifestyle of most Albertans. Although reliable analysis of the use of the outdoors for recreation is complicated by the relative absence of consistent and comparable

Table 6. Selected Landmark Dates with Relevance to Heritage Resource Protection and Outdoor Recreation in Alberta, 1930 - 1969

1930	Transfer of Resources Agreement enacted through the Alberta Natural Resources Act
1930	Provincial Parks and Protected Areas Act
1930	National Parks Act
1932	First provincial parks established in Alberta – Aspen Beach, Gooseberry Lake, Park Lake and Saskatoon Island
1938	Ducks Unlimited Canada founded
1948	Order-in-Council 113/48 Green, Yellow and White Area Policy adopted
1948	Eastern Rockies Forest Conservation Board established
1949	Department of Lands and Forests established
1950	Alberta Recreation and Parks Association founded
1951	Provincial Parks Act – establishment of a Provincial Parks Board within the Department of Lands and Forests
1959	Wilderness Provincial Park Act (renamed Willmore Wilderness Park 1965)
1961	White Goat and Siffleur wilderness areas declared under the Forest Reserves Act
1961	Canadian Wildlife Federation founded
1963	National and Provincial Parks Association of Canada founded
1964	National Parks Policy Statement
1964	Provincial Parks Act – an act respecting provincial parks, historical sites, natural areas and wilderness areas
1965	White Goat and Siffleur wilderness areas established by regulation under the Public Lands Act
1966	Natural Areas Committee established within Department of Lands and Forests
1966	Nature Conservancy of Canada incorporated
1967	Provincial Parks Policy Statement – stronger emphasis on conservation and preservation while providing for recreation
1967	Ghost River Wilderness Area established
1968	Alberta Government Recreation Committee established by Order-in-Council
1968	Edmonton Chapter, National and Provincial Parks Association of Canada founded
1968	Alberta Wilderness Association founded
1968	Alberta Consulting Panel formed to liaise with the Natural Areas Committee of the Department of Lands and Forests (Alberta Consulting Panel succeeded by Alberta Ecological Survey in 1974)
1969	Sierra Club Canada founded

Table 7. Selected Landmark Dates with Relevance to Heritage Resource Protection and Outdoor Recreation in Alberta, 1970 - 1979

1970	Forest Reserves Act
1970	Federation of Alberta Naturalists incorporated
1970	Initiation of Foothills Resource Allocation Study
1970	Wildlife Act – reconfirmed designation of wildlife and bird sanctuaries and introduced fish and wildlife habitat fund (became Buck for Wildlife program in 1973)
1970	Environment Conservation Act – established the Environment Conservation Authority
1970	Public Lands Act included provision for setting aside of natural areas outside the Green Area
1970	Alberta Heritage Act – established a Historic Sites Advisory Committee and a Public Advisory Committee on the Conservation of Historical and Archaeological Resources
1971	Environment Act – included provision for the establishment of a Natural Resources Coordinating Council and a Conservation Utilization Committee, and the designation of Restricted Development Areas
1971	Wilderness Areas Act relating to the White Goat, Siffleur and Ghost River Wilderness Areas
1971	National Parks Systems Planning Manual
1973	Environment Conservation Authority directed to conduct public hearings into "Land Use and Resource Development in the Eastern Slopes"
1973	Alberta Land Use Forum established (reported in 1976)
1973	Land Surface Conservation and Reclamation Act – included provision for Environment Impact Assessment
1973	Alberta Historical Resources Act – included provision for the establishment of an Historic Sites Coordinating Committee, Historic Sites Board, and the Alberta Historical Resources Foundation
1973	Provincial Parks Policy – Position Paper No. 13
1974	Alberta Government Recreation Committee – A Working Paper on a Leisure Land Use Policy for Alberta
1974	Provincial Parks Act – withdrew reference to historical sites, natural areas and wilderness areas
1974	Capital City Park, Edmonton announced
1975	Department of Business Development and Tourism Act
1975	Department of Recreation, Parks and Wildlife established
1975	Eastern Slopes Interdepartmental Planning Committee established
1975	The Resources of the Foothills – A Choice of Land Use Alternatives – Report
1976	Natural Areas of Canadian Significance Report
1976	Coal Development Policy for Alberta
1976	Recreation, Parks and Wildlife Foundation established
1977	Resource Planning Branch of the newly formed Resource Evaluation and Planning Division, Alberta Energy and Natural Resources established

Table 7. continued

1977	Environment Council Act – Environment Conservation Authority replaced by the Environment Council of Alberta
1977	Kananaskis Country Recreation Policy
1977	Alberta Planning Act – included consideration of environmentally sensitive land
1977	First natural area formally designated by Alberta Legislature
1977	A Policy for Resource Management of the Eastern Slopes
1977	Energy and Natural Resources initiated program for integrated planning for Alberta's public lands and resources
1977	Putting the Pieces Together: An Alberta Provincial Park System Plan
1978	Alberta Government Recreation Committee – A Framework for Recreation Development in Alberta – Report of the Fortress Futures Workshop
1978	Program and Policy Review Alberta Government Leisure Services – Makale and Kyllo Planning Associates Ltd.
1979	A Framework for Recreation Development in Alberta
1979	Ministerial Order 6/79 Classification of Provincial Parks
1979	Fish and Wildlife transferred to Energy and Natural Resources
1979	Alberta Provincial Parks Zoning System
1979	Urban Parks Program announced
1979	Four forest land use zones designated in the Eastern Slopes
1979	The Environmental Effects of Forestry Operations in Alberta: Report and Recommendations
1979	Dinosaur Provincial Park designated as a World Heritage Site
1979	Parks Canada Policy

data over time and geographic area, some general observations may be made.

For most Canadians, including Albertans, the amount of actual time spent in participating in outdoor recreation activities is relatively limited (Wall 1989). Despite this, many Canadians consider outdoor recreation activities to be extremely important dimensions of their leisure behavior patterns and their lifestyle in general (Wall 1989).

Outdoor recreation encompasses a variety of diverse activities with differing demands on natural resources, the opportunities for which are provided by the public, private, voluntary and commercial sectors (Burton 1984). The types and rates of participation in specific activities respond in varying degrees to changes in a population's demographic and socio-economic characteristics. Finally, participation surveys, which measure effective demand or actual participation, provide little or no indication of latent demand which includes the potential for additional participation in the future.

Demand for outdoor recreation depends on available leisure time, income, education, and

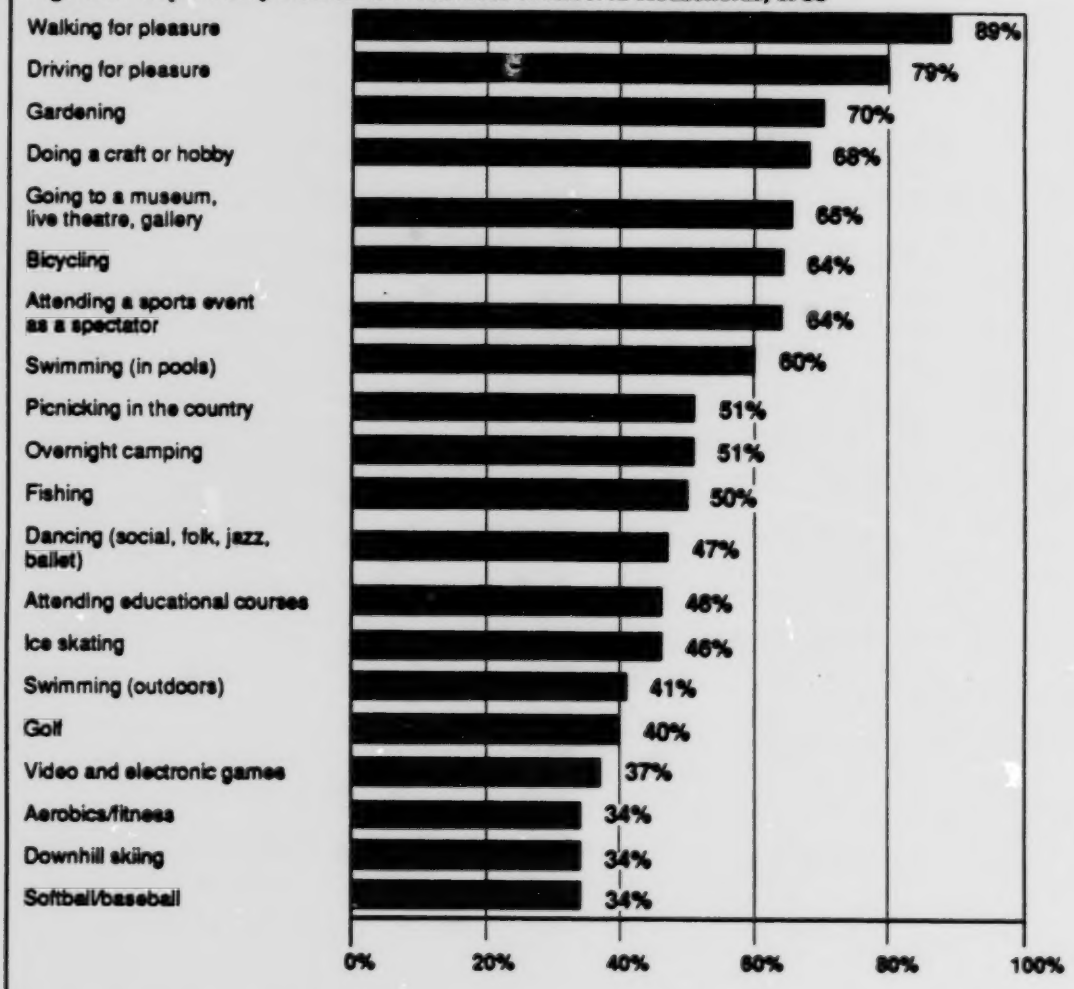
Table 8. Selected Landmark Dates with Relevance to Heritage Resource Protection and Outdoor Recreation in Alberta, 1980 - 1989

1980	World Conservation Strategy
1980	Provincial Parks Act – provided for Advisory Committee on Wilderness Areas and Ecological Reserves
1980	Alberta Culture – Master Plan for Prehistoric and Historic Resources
1980	Historical Resources Act
1980	Wilderness Areas, Ecological Reserves and Natural Areas Act
1981	Municipal Recreation Areas Program
1981	Head-Smashed-in Buffalo Jump designated as World Heritage Site
1982	Terms of reference for the Environment Council of Alberta's public hearings on the Future of Alberta's Agricultural Land Base
1982	Fish and Wildlife Policy for Alberta
1982	Alberta Forest Service – Recreation Program Goals, Policies, Long Range Objectives, Priorities and Budget Guidelines
1982	Wetlands for Tomorrow program
1983	Issues Management Study undertaken by Woods Gordon for Alberta Recreation and Parks
1983	Wood Buffalo National Park designated as World Heritage Site
1983	Ministerial Order 10/83 Parks and Recreation Classification
1984	Public meeting Milk River Candidate Ecological Reserve
1984	Alberta Fish and Wildlife – Status of the Fish and Wildlife Resource in Alberta
1984	Wildlife Habitat Canada Foundation
1984	A Policy for Resource Management of the Eastern Slopes Revised 1984
1984	Wildlife Act
1984	Alberta Recreation and Parks – Position Paper on Crown Land Reservation
1985	Government of Alberta – Position and Policy Statement on Tourism
1985	Four mountain parks (Banff, Jasper, Yoho, Kootenay) designated as World Heritage Site
1985	Canada/Alberta Tourism Sub-Agreement
1985	Centennial of Canada's national parks
1985	Five Forest Land Use Zones designated in the Eastern Slopes
1985	Alberta Recreation and Parks – Policy Statement for the Department of Recreation and Parks – Draft
1986	Intention to designate four ecological reserves
1986	In Trust for Tomorrow – Management Framework for the Four Mountain Parks
1986	Municipal Recreation Tourism Areas Program initiated
1986	Department of Forestry, Lands and Wildlife established
1986	Bighorn Wildland Recreation Area Announced
1986	Allison – Chinook Forest Land Use Zone established
1986	Deputy Ministers' Heritage Resource, Recreation and Tourism Committee established (successor to Deputy Ministers' Outdoor Recreation Review Group)
1986	Prospectus for an Alberta Conservation Strategy
1986	Task Force on Grazing Lease Conversion
1986	Bill C-30 National Parks
1987	Establishment of first ecological reserves in Alberta
1987	Privatization of two provincial park campgrounds
1987	Wildlife 87 – Centennial of Wildlife Conservation in Canada
1988	Prairie Conservation Action Plan
1988	Revised National Parks Act, Bill C30, passed
1989	Promotion of the Canadian Wilderness Charter
1989	Expansion of the Urban Parks Program

mobility together with individual and household attributes (sex, age, marital status, health, household size, and structure) (Wall 1989). Over the last quarter of a century changes in these factors have resulted in increasing involvement in a variety of outdoor recreation activities (Jackson 1989; Smith 1989). However, as Jackson (1989:87) has observed, "inferences about the relative importance of recreation activities depend, in part, on how the concept *recreation participation* is defined and measured." Measures that are commonly used include participation rate, frequency of participation, and recreational activity preferences.

The most recent and comprehensive data on outdoor recreation demand in Alberta are

Figure 3. Top Twenty Recreation Activities of Alberta Households, 1988



Source: From Alberta Recreation and Parks (1988a:4)

provided by the *1988 General Recreation Survey* and the Public Opinion Surveys on Recreation carried out in 1984 and 1981. All three surveys were undertaken by Alberta Recreation and Parks and the results have been summarized by the department in its *A Look at Leisure* series.

Figure 3 illustrates the top twenty recreation activities on the basis of the number of participating households. From the data it is evident that whereas many of the activities tend to take place either within the home or the immediate environment, other activities such as picnicking in the countryside, camping, fishing, and downhill skiing do entail use of the natural environment. Alberta Recreation and Parks (1989a) also found that the top ranked activities in terms of the numbers of households participating were broadly consistent regardless of community size, household income or type of household.

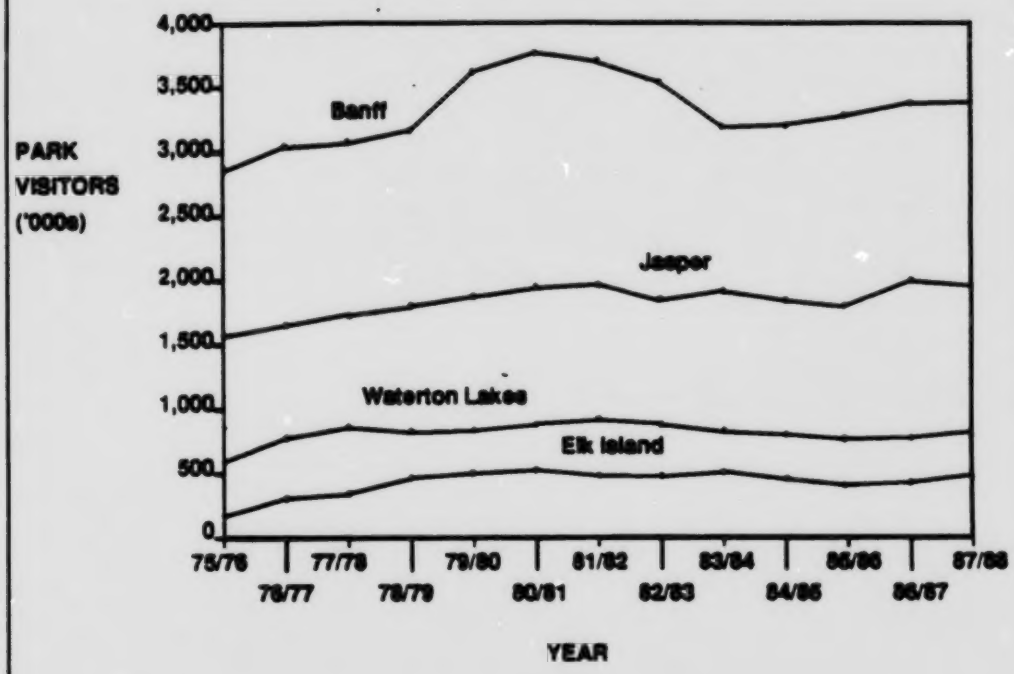
Comparison of survey data for the 1980s shows that all three surveys (1981, 1984, 1988) reported high levels of participation in creative, cultural and passive activities, and that the most popular active pursuits were similar from year to year (Alberta Recreation and Parks 1989a). However, whereas bicycling and fishing have in-

Table 9. Alberta Households' Favorite Recreation Activities, 1981 and 1988

	RANK	
Activities	**1981**	**1988**
Camping	1	1
Walking for pleasure	6	2
Golf	2	3
Fishing	4	4
Swimming	8	5
Bicycling	5	6
Downhill skiing	3	7
Reading books and magazines	7	8
Handicrafts	n.a.	9
Ice hockey	5	10
Curling	10	11
Physical fitness (for example, aerobics, yoga, jazzercize)	n.a.	12
Gardening	26	13
Baseball	12	14
Horse riding/racing	18	15
Hunting/shooting	11	16
Creative activities	n.a.	17
Dancing	13	18

Source: From Alberta Recreation and Parks (1989b:3)
Note: n.a. Not available

Figure 4. Number of Visitors to National Parks in Alberta, 1975-1988*



Source: Data from Canadian Parks Service (various years)

Note: *Wood Buffalo National Park is located in both Alberta and the Northwest Territories. Approximately 80 percent of the park's area lies in Alberta. Park visitors numbered slightly in excess of 3,000 in 1987.

creased in popularity, participation in many activities may be declining in Alberta. Several outdoor recreation activities recorded declines in the number of households participating during the period 1981 to 1988. For example, camping dropped from 65 percent of the households to 51 percent. Corresponding figures for cross-country skiing are 31 percent to 21 percent and overnight backpacking 20 percent to 8 percent. Alberta Recreation and Parks (1988a) has suggested a number of factors which may be responsible for these declining participation rates including, aging of the provincial population, lack of discretionary funds and decreasing amounts of leisure time for many segments of the population.

Despite these declining participation rates for selected activities, it would be wrong to assume that potential demand for many of these activities does not exist at present or that, with changing circumstances, participation could not increase in the future. For example, although camping dropped in terms of the proportion of households actually participating, this activity was ranked as the favorite activity by Albertans in both 1981 and 1988 (Table 9). Similarly, although fewer households participated in cross-country skiing in 1988 than in 1981, the *1988 General Recreation Survey* showed that it ranked fifth in terms of the activities that Albertans would most like to start. Swimming and golf were the two

highest ranked activities which Albertans would most like to start participating in.

The issue of constraints and barriers to participation remains an important dimension in assessing demand and identifying the type and level of outdoor recreation opportunities required in the future.

A more specific indicator of participation trends involving outdoor recreation is park visitor attendance. Figure 4 illustrates the numbers of visitors to national parks in Alberta between 1975 and 1989. Although visitor levels to the four national parks which lie entirely in Alberta (Banff, Elk Island, Jasper, and Waterton Lakes) were higher in 1987/88 than in 1975/76, the beginning of the 1980s marks the peak of visits during the last thirteen years. This visitor pattern is similar to that experienced by the national park system as a whole.

Comparable data are not available for Alberta's provincial parks over the same time period because of changes in data collection and presentation. However, between 1984 and 1988 occupied campsite nights increased from 391,996 to 437,368 whereas day use parties declined from 316,037 to 144,210 over the same period.

The Alberta Forest Service also has an important role to play in providing resource-oriented, dispersed, and extensive recreation opportunities in the Green Area. A 1979/80 household survey (Alberta Recreation and Parks 1983) showed that 70 percent of the respondents had visited a national park in the previous year, 54.3 percent visited a provincial park, and 14.6 percent had visited an Alberta Forest Service site. More recent public opinion surveys on recreation patterns in the province have not solicited comparable data.

Such information that does exist suggests that there was a substantial increase in the use of forest areas for camping and related outdoor recreation activities during the 1960s and 1970s but that this trend has levelled off during the 1980s (Alberta Energy and Natural Resources 1982a). For example, estimates of the total use of Alberta Forest Service campsites rose from 248,850 party nights (the Alberta Forest Service assumes for calculation purposes that the average party size is three persons) in 1984 to 311,436 in 1986 but dropped to 215,232 in 1988 (Alberta Forestry, Lands and Wildlife 1989a). However, there is the possibility that this decline in user numbers at formally designated campsites is offset by an increase in random camping within the Green Area of the province.

Evidence of a general levelling off in participation in certain recreation activities is not unique to Alberta. Despite the trend toward a more active lifestyle for many Americans, Clawson (1985:3) has noted with reference to outdoor recreation patterns in general that, "though the trend in recreation usage of public areas is still upward, there is fairly clear evidence of a flattening in the rate of growth" (see also Kelly 1987).

Chapter Three

Benefits From Outdoor Recreation and Parks

Early proponents for the development of public parks, playgrounds, and recreation programs stressed the role that those areas and activities could play in improving the physical and mental health as well as the moral standard of the individual and society (McFarland 1970). The specific nature of the relationship between engagement in outdoor recreation and a number of these benefits continues to be a matter of debate, but there is evidence to suggest that leisure is a major element in the quality of life (Kelly 1987). Alberta Recreation and Parks (1986:2) has suggested that "while work will continue to be essential in the Alberta context, the wise use of leisure is increasingly being viewed as a means of improving life satisfaction."

Although there is an expanding literature on recreation and amenity resource valuation (see Peterson, Driver, and Gregory 1988), the identification and measurement of recreation and park values continues to be a major challenge for most resource analysts and policy makers. Moreover, the increasing competition between resource interests and the mounting pressure for maximizing net public benefits require that the benefits from outdoor recreation and parks, including both extra-market and market-determined values, must be assessed (see Cottrell 1985).

Veeman (1985) has referred to Howe's (1971) four categories of values (or types of benefits and costs) in the following manner:

1) Economic values for which market prices exist and for which these prices correctly reflect societal opportunity costs or true scarcity values; for example, farm or timber outputs which are not price supported.

2) Economic values for which market prices exist but for which the prices fail to reflect appropriate scarcity values or shadow prices; for example, price-supported commodities or labor inputs that would otherwise be unemployed.

3) Economic values for which no market prices exist but for which appropriate social values can be approximated in money terms, by inferring what consumers would be willing to pay for the product or service, either through direct surveys or indirect techniques such as the Hotelling-Clawson-Knetsch method of extra-market benefit estimation; for example, forest-based recreation or hunting and fishing.

4) Values for which it would be difficult to imagine any kind of market-like process capable of registering a meaningful monetary valuation; for example, the preservation of a beautiful view, historic site, or way of life, or the destruction of a unique riverscape. (Veeman 1985:18)

Most outdoor recreation activities would be placed under category 3 whereas many of the values associated with parks and other protected areas, such as landscape quality and the ecological or cultural integrity of a site, fall under category 4. Reference to a taxonomy of wilderness benefits produced by Driver, Nash, and Haas (1987) (Table 10) shows that economic benefits are, however, only one category of benefits which must be taken into consideration.

For the purposes of this discussion paper, the benefits to be derived from outdoor recreation and parks are divided into two broad categories:

Table 10. Taxonomy of Wilderness Benefits

Personal Benefits (accruing primarily to individuals and might or might not benefit society at large)

- Development (desired changes in self-concepts and skills)
  - Self-concept
  - Self-actualization
  - Skill development
- Therapeutic/healing
  - Clinical
  - Nonclinical (stress mediation/coping)
- Physical health
- Self-sufficiency
- Social identity (development/maintenance of desired social relations with family and others)
- Educational
- Spiritual
- Aesthetic/creativity
- Symbolic (benefits from options to realize that actions are being taken in support of provision-related beliefs)
  - Resource stewardship
  - Anti-anthropocentricism/moralistic
  - Option demands
  - Other
- Other personal wilderness recreation-related benefits
- Commodity-related (benefits to individuals from goods produced from wilderness such as those related to water and to grazing by domestic animals)
- Nurturance

Social Benefits (accruing across individuals to society collectively or to large segments of society)

- Aggregate personal benefits
- Spinoff benefits
- Historical cultural benefits
- Preservation-related benefits
  - Representative ecosystems
  - Species diversity
  - Air visibility [clean air]
  - Unique landforms, including areas of outstanding scenic beauty
  - Historic sites
  - Educational values
  - Scientific laboratory
  - Stewardship (options for future generations)
- Quality of life
- Commodity uses (water, minerals, grazing, etc.)
- Economic benefits
  - National economic development
  - Local/regional economic development

Inherent/intrinsic (benefits to nonhuman organisms)

Source: From Driver, Nash, and Haas (1987:298)

(1) non-economic indicators of the value of outdoor recreation and parks; and (2) economic indicators of the value of outdoor recreation and parks. This distinction between non-economic and economic indicators does not preclude the fact that attempts are increasingly being made to calculate the economic value of personal and social benefits not immediately evident from market determined values.

BENEFITS OF OUTDOOR RECREATION AND PARKS

Personal benefits derived from outdoor recreation are those benefits experienced by individuals as a result of an engagement in a recreation activity. A behavioral interpretation of recreation recognizes that participants expect a variety of satisfactions and longer term benefits to result from this involvement (Driver and Tocher 1970). An understanding of these benefits has important implications for both the provision of outdoor recreation opportunities (involving consideration of the biophysical, social, and managerial characteristics of the setting) and predicting outdoor recreation demand.

Reasons for participating in recreation activities provide a crude basis for inferring some of the non-economic benefits which may be derived from recreation. In Alberta, the *1988 General Recreation Survey* examined the importance of twenty reasons for participation in favorite recreation activities. The highest ranked reasons for participation were: (1) pleasure – 93 percent; (2) relaxation – 83 percent; (3) physical health or exercise – 77 percent; (4) doing something different from work – 74 percent; and (5) to enjoy nature – 73 percent (Alberta Recreation and Parks 1989b).

The aggregated effect of individual or personal benefits result in societal benefits which may accrue to small social groups or society itself (Brown 1984). Social benefits include, improvement and development of community cohesiveness, strengthened family and friendship bonds, and increased economic productivity (Cordell and Hendee 1982). Recognition of the personal and societal benefits of recreation has resulted in both the public and private sectors becoming involved in providing opportunities for members of society to improve life satisfaction through a variety of institutional arrangements and programs. Examples include, programs for self-improvement, promotion of the wellness concept, employee fitness programs, and the application of recreation programs in the rehabilitation of the physically and mentally disabled. Chubb and Chubb (1981) have also commented on the positive role that recreation has had on society's attitudes toward the role of women, the economically disadvantaged sectors of society, and minority ethnic groups.

Numerous authors have examined the benefits to be derived from protected natural areas and the underlying themes for justifying heritage conservation and preservation (Allen 1980; Barnett and Morse 1963; Fuller 1987; Gilg 1981; Green 1981; Lausche 1980; Swinnerton 1984, 1989). Stankey (1982) has noted that a successful program of natural area preservation rests on three components: (1) a logical and defensible philosophical framework that provides a clear statement of the rationale underlying preservation; (2) a solid resource data base for the area(s); and (3) an effective delivery or management system for the area(s). With reference to the first of the three components, it is evident that the justification for the protection of natural areas and the enumeration of the benefits subsequently realized are broadly two-fold: a biocentric perspective and an anthropocentric perspective (Hendee and Stankey 1973). These two perspectives are not entirely mutually exclusive.

Biocentric Perspective

The biocentric perspective and benefits associated with natural areas are based on an ethical orientation which recognizes the inherent and intrinsic value of nature. Driver, Nash and Haas (1987) have suggested that the intrinsic value of wilderness signifies the need for human restraint

and the ability of technological societies to refrain from the total modification of the natural environment. Aldo Leopold's (1949) "land ethic" enlarged the membership of the moral community beyond human society to include all the constituents of nature. A further dimension of this perspective is the claim that wildlife possesses moral rights and standing and that all living organisms and even natural phenomena should be accorded legal status and rights. This latter position questions society's right to exploit and exterminate any form of life or natural phenomena. Stankey (1982) has suggested that the preservation of natural areas is a symbolic gesture of a moral responsibility on the part of society to preserve as wide a range of environmental diversity as possible.

Despite the fact that "many people feel that conservation is somehow a matter of conscience" (Green 1981:8), the ethical arguments involved in the biocentric perspective are difficult to comprehend, to assign economic value to, and to translate into public policy. As a result, greater recognition tends to be given to the anthropocentric perspective and associated benefits in advocating the need for parks and protected natural areas.

Anthropocentric Perspective

The anthropocentric justification for parks and protected natural areas is based on the contention that an appreciation of nature, and therefore support of conservation and preservation, can only be expressed in terms of a human scale of values. As a result, protection of natural areas is ultimately assessed in terms of society's self-interest, utility and proprietorship (Livingston 1981). Stankey (1982) has described this perspective as an "instrumental" conception of conservation and preservation in that the protection of natural areas is a means to an end rather than an end in itself.

The benefits associated with an anthropocentric perspective to the conservation and preservation of parks and related natural areas are many but may be categorized as follows:

Spiritual Benefits: Although difficult to measure, spiritual benefits are considered by many to be the most significant benefits derived from the preservation of natural areas. The benefits relate to the spiritual renewal, moral regeneration, and the ethical and symbolic values of the natural environment.

Recreation and Aesthetic Benefits: Acceptance of the recreation opportunity spectrum concept requires the provision of a range of recreation settings. Areas such as natural parks and wilderness areas are essential components of the continuum in that they provide the preferred type of setting for many outdoor recreation activities. The personal, societal, and economic benefits which may be derived from involvement in these activities are noted elsewhere in this chapter.

An integral part of many recreation experiences is the aesthetic benefit derived from pleasant scenery together with the solitude and quiet provided by natural landscapes. All of these are considered to have positive effects on physical and mental well-being (Daniel and Zube 1979). The aesthetic value of landscape is not confined to an appreciation of visual grandeur but it can also be attributed to a sense of identity and the meaning and emotional significance that landscapes can have for the observer.

Ecological Benefits: Proponents of the ecological benefits to be derived from parks and protected natural areas point to the need to retain undisturbed ecological systems for maintaining natural processes upon which human life is dependent. Associated with the ecological perspective is the questioning of society's effect on the world ecosystem, the availability of resources and the quality of life for future generations. In its optimistic form, there is the belief that new technology will be able to counteract resource and environmental

problems. The pessimistic perspective recognizes the ecological limits of the biosphere and the dangers of exceeding the "critical zone" of certain components of the resource base.

A second important dimension of ecological benefits is the contribution that protected areas make as genebanks. This protective role relates not only to endangered species but also the need to preserve genetic diversity in terms of many different species and variation within species (Prescott-Allen and Prescott-Allen 1984). Protecting this genetic diversity has implications for species adaptation and natural selection which enhance our enjoyment of nature; and for the direct use of wild genetic resources, both realized and potential, for food, fiber and pharmaceuticals, and for the genetic stock they may provide for improving existing crops and domestic animals (Webb 1987).

Scientific and Educational Benefits: The fourth major category of anthropocentric benefits associated with parks and protected areas is the need for research areas in undisturbed and natural areas. A specific function of such areas is their use as benchmarks against which to measure natural or human-induced changes and to provide guidance for the rehabilitation of disturbed ecosystems. Educators are also becoming increasingly aware of the value of parks and related reserves as in situ classrooms and laboratories for a wide variety of disciplines and educational levels.

In Absentia Benefits: Pearsall (1984:3) has stressed the need to recognize the "*in absentia* benefits of nature preserves, which are those benefits which do not accrue to the user at the preserve." The longer term benefits experienced by recreationists who may use parks or protected areas as settings for compatible recreation activities have already been noted in this chapter. A further example of in absentia benefits is the contribution that natural areas have made as the basis for inspiration in the arts including painting, music, and literature. In summary, natural areas are an important facet of a society's culture and heritage.

ECONOMIC VALUATION OF OUTDOOR RECREATION AND PARKS

Underlying Concepts

Economic measures of value and benefits address issues of efficiency and equity. Economic *efficiency* is concerned with the contribution that outdoor recreation can make to the net aggregate economic wealth of a specified population or area. *Equity* deals with the distribution of the economic value among different individuals, groups, and areas. Economic valuation attempts to identify "the monetary worth of goods and services that provide beneficial functions, based on the ability and willingness of the consumer to pay (or sell) within the market context of exchange, supply and demand" (Driver and Peterson 1986:Values-4). However, one of the distinguishing economic characteristics of outdoor recreation is the lack of a market price for many types of outdoor recreation activities including the use of recreation resources and park areas. Nevertheless, the absence of a formal market pricing does not mean that outdoor recreation or parks are free goods or that they cannot be valued in economic terms.

Participation in outdoor recreation activities results in the participant incurring certain expenses called *threshold costs*. These threshold costs may include travel costs, food and lodging, equipment, entry fees, and licenses for hunting and fishing for example. Threshold costs vary depending on the nature of the recreation activity, the location of the recreation area in terms of distance from the home of the participant, and the time spent away from home. The sum of these direct expenditures is a surrogate of the market price of a specified recreation activity.

However, it is recognized that market price based solely on expenditures understates or does not represent the full value of benefits received by recreationists or park visitors (see Jacquemot, Reid, and Filion 1986; Phillips and Adamowicz 1986; Walsh, Gillman, and Loomis 1982). Studies have shown that in order to obtain an indication of the full value of benefits derived from a recreation experience consideration must be given to extra-market values or benefits. Calculation of extra-market benefits is based on the *willingness to pay* concept which measures *consumer surplus*. Consumer surplus represents "the amount of money participants would pay over and above what they have actually paid rather than to forego a given experience" (Jacquemot, Reid, and Filion 1986:5).

Many recreation experiences involve the use of scarce or unique resources such as wildlife and wilderness areas. There is therefore increasing recognition of the need to take into consideration the willingness to pay for those values in addition to the consumer surplus from current recreation use. For example, preservation values include option values, existence values and bequest values. *Option value* is the willingness to pay for the opportunity to use environmental resources for recreation use in the near future. *Existence value* is the willingness to pay for the knowledge that certain resources are protected, whether or not they are used. *Bequest value* is defined as the willingness to pay for the satisfaction of endowing environmental resources to future generations. Walsh, Gillman and Loomis (1982:11) have noted that "with such [willingness to pay] information, it would be efficient for society to allocate more resources to the protection of unique natural environments in parks and wilderness areas."

The current concern in Alberta for economic recovery and the stimulation of development at the provincial and regional levels has meant that increasing attention has been given to the economic significance and impact of individual resource use sectors at the macro level. Economic impact focuses on the implications that expenditures, associated in this instance with outdoor recreation and parks, have on the broader fabric of the provincial economy. The economic impact of recreation development and consumer expenditure are categorized into: (1) primary or direct impacts; and (2) secondary or indirect impacts.

> *Direct [Primary] impacts arise from transactions intimately related to the project or activity, such as the material and labor purchases made when expanding the supply of recreational facilities or the expenditures for various supplies and services by participants engaging in a recreation occasion.*
>
> *Indirect [Secondary] impacts encompass the chain of consequences that result from the direct effects, including changes in employment levels, gross regional product, factor earnings, and institutional incomes like personal income or government revenues.* (Alward 1986:Values-48)

Application of the *multiplier concept* is a methodology which addresses the dimension of the economic "ripple effect" of economic expenditures. There are a number of different kinds of multipliers based on various economic measure scales including the recreation expenditure multiplier, recreation employment multiplier, and recreation incomes multiplier (see Burton 1984).

Selected Data

Comprehensive and reliable data on both the direct and indirect economic benefits of outdoor recreation and parks in Alberta do not exist. Reference is therefore restricted to a limited number of studies which provide at least some indication of the economic benefits and impact of outdoor recreation and parks at the provincial level.

An indication of the relative importance of different types of expenditures (that is, threshold costs) which participants incur as a result of their involvement in leisure activities is illustrated in

Table 11. The figures relate to the 1981 and 1984 Public Opinion Surveys on Recreation (Dunn 1986). The table shows that expenditure in equipment was the single largest area of financial commitment during both years. However, these figures disguise the fact that differences exist between different recreation activities regarding the relative importance of the various expenditure categories.

For example, comparison of mean annual expenditures in terms of types of leisure activity reveals that the four most expensive activities in 1984 were camping ($1,022), mechanized outdoor recreation ($917), downhill skiing ($885), and fishing and hunting ($776). The three least expensive leisure activities were outdoor (non-mechanized) (which includes backpacking/mountain climbing, canoeing/rowing/kayaking, cross-country skiing, biking and nature walks) ($502), passive ($473), and exercise oriented ($432) (Dunn 1986).

Expenditure on wildlife-related activities is one aspect of outdoor recreation which has received considerable attention (see Renewable Resources Sub-Committee 1989). In 1981, Canadians spent approximately $4.2 billion on various wildlife-related activities. Half (49.9 percent) of this total was accounted for by primary non-consumptive wildlife trips, hunting accounted for 28.2 percent, and the balance (21.9 percent) was associated with other wildlife-related activities. The 1981 survey revealed that the total expenditures by residents of Alberta on wildlife-related activities during 1981 were only exceeded by the spending of British Columbia and Quebec residents (Jacquemot, Reid, and Filion 1986). A breakdown of the total expenditures of approximately $550 million is shown in Table 12 with recreational hunting accounting for 37.2 percent of all wildlife-related recreation activities.

The same study estimated that the economic impacts of these expenditures were as follows: (1) gross production in the business sector – $1,005.7 million; (2) income – $523.8 million; (3) wages and salaries – $192.1 million; and (4) provincial revenue from taxes – $758 million. The net economic benefits that Albertans derived from wildlife-related recreation activities in 1981 were valued at approximately $114 million. The authors of the study (Jacquemot, Reid, and Filion 1986:34) justifiably concluded that "wildlife-related recreation supports a significant amount of

Table 11. Mean Dollar Expenditures and Percentage of Total Expenditures by Albertans on Leisure Activity, 1981 and 1984 [+]

	1981		1984	
Type of Expenditure	Mean Dollar Expenditure	%	Mean Dollar Expenditure	%
Equipment Costs	182	30	169	31
Travel Costs	191	31	147	27
Other Costs[*]	140	23	126	23
Membership and Entrance Fees	100	16	105	19

Source: From Dunn (1986:116)
Notes:
The 1984 figures relate to expenditures on activities which respondents had started in the previous year, whereas the 1981 survey requested information about the amounts spent on the respondents' favorite activities.
[+] Based on the mid-point dollar values for each response category, with $500 and over calculated as $500
[*] Includes expenditures for meals and accommodation

Table 12. Estimated Wildlife Expenditures by Residents of Alberta, 1981 *

Expenditure Category	Recreational Hunting		Non-Consumptive Activities		All Wildlife-Related Recreational Activities	
	($000,000)	%	($000,000)	%	($000,000)	%
Transportation	35.7	17.4	53.8	15.6	89.5	16.3
Accommodation	6.1	3.0	19.4	5.6	25.5	4.7
Food	17.2	8.4	33.7	9.8	50.9	9.3
Equipment	123.8	60.5	161.4	46.8	285.2	51.9
Ammunition, Repairs and Other Items	21.8	10.7	42.4	12.3	64.2	11.7
Contributions and Membership Fees	-	-	6.7	1.9	6.7	1.2
Maintenance and Improvements of Wildlife Areas	-	-	27.8	8.0	27.8	4.9
TOTAL	204.6	100.0	345.2	100.0	549.8	100.0

Source: From Jacquemot, Reid, and Filion (1988:34)
Note: * Cell values may not total due to rounding

employment and income and makes an important contribution to the provincial treasury."

Direct benefits of recreational activities go beyond a summation of actual expenditures. With reference to big game hunting in Alberta, Phillips and Adamowicz (1983) have calculated that in 1981 the average willingness to pay per day for hunting was $73 for bighorn sheep, $72 for moose, and $70 for grizzly bear. They too (Phillips and Adamowicz 1983:70) referred to "the importance of wildlife resources in Alberta and to society as a whole."

A recent study published by the Canadian Parks Service (1989) examined the impact of Alberta's national parks on the provincial economy. Estimated visitor expenditure in Alberta's national parks (Banff, Jasper, Waterton, Elk Island, and Rocky Mountain House National Historic Park) totalled $412 million during the fiscal year 1987/88. Expenditure in Banff and Jasper accounted for 97 percent of all visitor expenditures. Food and beverage (33.9 percent) and accommodation (29.8 percent) constituted the two largest categories of expenditure by visitors to the parks. In contrast, actual expenditures on recreation and entertainment (such as tickets to events, equipment rentals) accounted for 10.4 percent of the total expenditures. During the same period (1987/88), the Canadian Parks Service spent $54.2 million to manage and operate the national parks in the province. Private sector investments amounted to $39.3 million over this period.

The study concluded that these expenditures represent 13.8 percent of the gross domestic product of the province's tourism industry and 0.8 percent of Alberta's total gross domestic product.

A study of the economic impact of Alberta's provincial parks (DPA Group Inc. 1986) provided

evidence of the contribution that this sector makes to the total provincial economy. The DPA study calculated that the Alberta Government spent approximately $43 million on replacing, maintaining, and operating facilities and services in its system of provincial parks and recreation areas in the fiscal year 1984/85, and that the expenditure by over 3 million visitors totalled nearly $50 million (49.3). A summary of the park-related expenditures and resulting economic impacts is shown in Table 13. Not included in the calculations are the non-market values associated with the use of parks. In addition, the study acknowledged that expenditures incurred by park visitors probably underestimate the real figure because of a low figure for actual total park use (DPA Group Inc. 1986).

One attempt to calculate the economic significance of recreation in Alberta has been undertaken by Burton (1984). He suggested that direct expenditures on recreation in Alberta amounted to $3.9 billion with a multiplier effect of 1.67 contributing a further $2.6 billion. The total figure for economic significance of $6.5 billion includes expenditures in both the public and private sectors and incorporates a very broad interpretation of spending in the leisure field (Table 14). The economic significance directly attributable to out-

Table 13. Summary of Park-Related Expenditures and Resulting Economic Impacts, 1984/85

	Alberta Recreation and Parks	Visitors	Total
Total Expenditures ($000,000)	43.1	49.3	92.4
Employment Impacts (jobs[c])			
Direct	800		800
Indirect	510	660	1,170
Induced	520	210	730
TOTAL	**1,830**	**870**	**2,700**
RATIO	2.3:1[a]	1.3:1[b]	3.4:1[a]
Household Income Impacts ($000,000)			
Direct	16.3	n.a.	16.3
Indirect	12.7	15.0	27.7
Induced	10.7	5.4	16.1
TOTAL	**39.7**	**20.4**	**60.1**
RATIO	2.4:1[a]	1.4:1[b]	3.7:1[a]

Source: From DPA Group Inc. (1986:8)

Notes:
[a] Ratio of total to direct impacts
[b] Ratio of total to indirect impacts
[c] Full-time job equivalents; also expressed as person-years of employment
n.a. Not applicable; visitor expenditures are considered as indirect impacts

Table 14. Summary of the Estimated Economic Significance of Recreation in Alberta as Measured by Expenditures, 1983 *

Category of Expenditure	Estimated Value ($000,000)	%
Family Expenditures	2,567.5	66.0
Non-Family Commercial Sector Expenditures	849.6	21.9
Non-Family Voluntary Sector Expenditures	26.7	0.7
Non-Family Private Sector Expenditures	4.4	-
Public Sector (Government) Expenditures	439.2	11.3
TOTAL RECREATION EXPENDITURES	3,887.4	100.0
MULTIPLIER EFFECT (AT VALUE OF 1.67)	2,604.6	
TOTAL ECONOMIC SIGNIFICANCE	6,492.0	

Source: From Burton (1984:X1)

Note: * The figures upon which these are based relate to different years between 1980/81 and 1983. It has been assumed for the purposes of this table that all figures are for 1983.

door recreation and parks is not identified as a separate subcomponent but it must be assumed that this subcomponent accounts for a relatively small proportion of the total figure.

Parks and outdoor recreation provide a multiplicity of benefits for Albertans and visitors to this province. Any attempt to assess these benefits must incorporate both economic and non-economic measures if a true perspective is to be achieved. Unfortunately, resource management practices in other sectors can severely compromise or deplete many of the inherent characteristics of heritage resources and outdoor recreation opportunities and consequently prevent the realization of these benefits.

Chapter Four

Future Patterns Of Demand

DEMAND FACTORS

Any attempt to identify future patterns of demand for outdoor recreation and protected areas is fraught with difficulty and uncertainty. Although demographic characteristics, education, disposable income, available leisure time, and levels of personal mobility influence patterns of recreation involvement, the dynamics of these causal agents and their precise relationships to recreation participation in the future remain largely speculative. The following chapter examines some of the changes in the causal agents which are associated with the demand for outdoor recreation in Alberta.

Population Size and Age

An obvious determinant of recreation demand is the size of the population. Alberta's population at the time of the 1981 Census was 2.3 million. The Alberta Bureau of Statistics projects an increase to a total of between 2.6 and 2.9 million by 2001 and further growth to between 2.9 and 3.7 million by 2016 (Alberta Treasury 1989). Alberta's population exhibits characteristics of the post-war "baby boom" as well as a gradually aging population. Population projections for Alberta suggest that the proportion of the population sixty-five and over could increase from the current 8.4 percent to between 9.9 percent and 10.8 percent by 2001 and that by 2016 the figure could be as high as 15.9 percent (Alberta Treasury 1989).

Although existing studies show that participation in most outdoor recreation activities declines with age (United States Department of the Interior 1979), this trend may be offset in part by society's changing perception of the elderly and the way older people see themselves (Kaiser and Moeller 1980). To the extent that future older generations will likely have better health, more education, more money, and more experience in a variety of recreation activities, Butler (1989:282) has suggested that "the increasingly large elderly population will be more like current forty-to-fifty-year-olds than current seventy-to-eighty-year-olds." Actual rates of participation may therefore increasingly be determined by the extent to which programs and facilities are designed and managed for this expanding market segment. For example, Filion, Parker, and DuWors (1988) have noted that whereas hunting will attract a lower proportion of the population in the future because of an aging population, the importance of non-consumptive wildlife activities is likely to increase.

In contrast to the increased proportion of the population over sixty-five, the decline both absolutely and proportionally in the numbers of Albertans under twenty-five will also influence patterns of outdoor recreation. However, the current emphasis on fitness and wellness could result in an increased proportion of the population maintaining an active lifestyle into its forties and fifties when increased amounts of disposable income permit participation in a wide range of recreation activities.

Education

Level of education also exerts some influence on recreation demand. Overall it appears that

Alberta's population is attaining higher levels of education. Between 1975/76 and 1985/86 enrolment in the Alberta post-secondary system increased by 75 percent. Continuing education is also evident in the enrolment in non-credit academic programs (Butler 1989) and in life-long learning as illustrated by involvement in education travel programs (Kalinowski 1989).

People with higher levels of education tend to be more aware of and interested in many forms of outdoor recreation and their education background frequently provides them with the necessary skills for effective participation (Godbey 1981). In addition, they are more likely to have higher disposable incomes and consequently are able to spend more on recreation. Existing studies also suggest that people with higher levels of education are more likely to participate in non-consumptive forms of outdoor recreation. For example, data from the 1984 Public Opinion Survey on Recreation in Alberta show that participation increased with education level for activities such as cross-country skiing and hiking, whereas participation decreased with education levels for consumptive activities such as hunting and fishing (Dunn 1986).

Leisure Time

A third major factor which will continue to influence recreation demand and participation is the amount of discretionary or leisure time. Numerous factors such as age, sex, marital status, family life cycle, and employment status influence the total amount of discretionary time available and the timing and duration of individual periods of leisure time. Although increases in available leisure time do not correlate directly with increased recreation participation, the relationship is predominantly a positive one (United States Department of the Interior 1979).

Despite the fact that many projections advocate a continued increase in leisure time, Kaiser and Moeller (1980) cautioned at the beginning of the 1980s that North American society may be approaching a peak in the amount of available discretionary time. Evidence from both Canada (Butler 1989) and the United States (Robinson 1986) suggests that the amount of free time available during the normal working week has not changed dramatically over the past decade. This situation reflects amongst other things increased travel time to work, the leisure-income trade-off, the two-income family, and limited acceptance of flextime or job sharing. To the extent that there has been a "recreation boom," it would appear that this has occurred in connection with "blocks of free time associated with non-regular periods of the year, such as vacations" (Robinson 1986). Kelly (1987) has suggested that, "the alleged 'growth in free time' is uneven at best and inaccurate for most adults in the 1980s." With little prospect of major changes in the work patterns of most Canadians during the remainder of this century (Butler 1989), the amount of free time is unlikely to change to any marked extent. In addition, although increasing longevity coupled with earlier retirement provides the potential for greater free time towards the upper end of the age spectrum, existing studies show that less than 5 percent of this time is currently devoted to recreation (Robinson 1986).

Personal Income

Personal income and more specifically disposable income is not only a determinant of the type of activity participated in but also of the nature, location, duration, and frequency of the participation (Butler 1989). During the period 1977 to 1987, the total disposable income of Albertans increased by 188 percent from $11,737 million to $33,760 million (Alberta Treasury 1989). A proportion of this increase is attributable to Alberta's employed labor force increasing by almost one-third over this period. Economic trends which suggest moderate income increases counterbalanced by inflation in the price of essentials will likely result at best in only modest increases in disposable income for spending on additional recreation participation (Butler 1989; Pannell Kerr Forster 1986). Perhaps of greater

significance is the growing disparity in income and wealth within society (Butler 1989; Kelly 1987; Pannell Kerr Forster 1986) and that, in the United States at least, "the percentage of income spent on recreation has remained fairly consistent, an average of about 6.5 percent" (Kelly 1987:17).

Other Factors

There are a number of other factors which will continue to influence future patterns of recreation participation. These include, changing household composition, particularly the increasing proportion of single-parent families (Kelly 1987), the changing role and status of women, and the changing ethnic mix of our population. Whereas the increased involvement of women in the workforce will result in scheduling constraints on recreation participation, the women's movement could lead to fuller participation by women in a wider range of recreation activities (Butler 1989). Butler also referred to the influence of cultural mosaic and the changing ethnic mix of the immigrant population will also affect future recreation patterns.

Changing technology has had a profound effect on recreation activities and styles of participation in the past and is likely to do so in the future (Butler 1989). For example, continued improvements in equipment for high-risk activities, such as, hang gliding, rock climbing and a variety of white-water sports, could increase the popularity of these activities.

Jackson (1989) has drawn attention to changing societal attitudes and values and has suggested that changes from a consumer to a conserver society could result in a growing preference for non-consumptive, appreciative activities and a decline in mechanized and consumptive activities. A number of surveys have addressed the relative importance of resource protection and the provision of recreation opportunities on public land in Alberta and specifically provincial parks (Dunn 1986; Jackson 1987; Swinnerton 1987). All three surveys showed that more respondents considered resource protection to be more important than the provision of facilities for outdoor recreation. The provincial park and recreation area visitor survey (Swinnerton 1987) also revealed that visitors were strongly inclined toward programs and outdoor recreation activities which helped visitors to understand and appreciate the intrinsic features of the park environment. They were also strongly inclined to activities where the quality of the recreation experience depended to a large extent on the conservation of the natural features of the resource base.

Some insight into possible future trends in outdoor recreation may also be gauged by examining latent demand resulting from barriers which currently prevent or limit participation. The *1988 General Recreation Survey for Alberta* showed that nearly half (46.8 percent) of the respondents wished to participate in activities in which they were currently not involved (Alberta Recreation and Parks 1988a). For those activities which people would most like to start, the barriers which were most frequently reported included, cost, lack of opportunity near home, and too busy with work. Previous surveys have focused on reasons for ceasing participation. For instance, the 1984 Public Opinion Survey on Recreation (Alberta Recreation and Parks n.d.) showed that work and family commitments were the major reasons for ceasing participation. Although barriers to participation reflect in part the different priorities in lifestyle and behavior of people (Jackson and Dunn 1988), it is unlikely that there will be any dramatic changes which could lead to the removal of many of these barriers.

That no opportunity to participate near home and (of lesser importance) overcrowding were reasons for non-participation in outdoor recreation activities raises the important issues of displacement and substitutability. "Displacement in recreation is defined as the outcome of a decision to change behavior and is caused by adverse changes in the recreation environment" (Anderson and Brown 1984:61). These changes may be

prompted by perceived overcrowding and degradation of the resource base. Displacement as a process raises the issue of substitutability and the extent to which alternative activities and/or settings yield similar satisfactions (Wyman 1982). Substitutability has important implications for future spatial patterns of outdoor recreation activity. One aspect of this issue is the extent to which rural areas close to urban centers may be perceived as adequate alternatives for more traditional recreation settings such as the Eastern Slopes and national and provincial parks.

The availability of recreation resources also serves as a factor in creating demand and influencing the rates of participation (Smith 1989). Complementing the provision of recreation opportunities is the appropriate marketing of these opportunities to various market segments. Consequently, any changes in marketing strategy, both in terms of the market segment of the population involved and the product targeted, whether it is heritage resources or high-risk recreation activities, will have an important influence on future patterns of demand (see Wight 1988).

FUTURE PARTICIPATION PATTERNS

Although there is always the possibility that future patterns of outdoor recreation participation may be dramatically influenced by currently unanticipated changes in the myriad of interconnected factors of demand, Butler (1989) has suggested that for the most part any change is likely to be incremental and gradual.

> *...in the short term or even medium term future, massive change is unlikely. ...People do not abandon lifetime preferences and behavior lightly, especially when they may have considerable amounts of money and time invested in equipment, property, and skills. (Butler 1989:280)*

An underlying premise to accommodating future recreation demand is that diversity of opportunity is an essential ingredient of the recreation delivery system, particularly if satisfying experiences are to be realized by the participants. Demands for certain outdoor recreation activities are likely to become increasingly critical in the future, particularly in terms of the availability of appropriate recreation settings. Some of the more important trends are as follows:

Non-Consumptive Recreation — Non-consumptive recreation is preferred by older people and by better educated people; since there are likely to be increasing numbers of these groups in Alberta, the demand for non-consumptive recreation is likely to increase. As well, societal attitudes generally seem to be changing in the direction of a growing preference for non-consumptive activities.

A growing demand for non-consumptive recreation will increase the need for interpretive staff and materials to assist non-consumptive users. Also, providing for an aging population in sensitive outdoor recreation environments may be difficult given the need for improved facility development and access for elderly users (Butler 1989).

Pressures to Conserve Natural Areas — Along with the increasing demand for non-consumptive recreation will be increased pressure on existing areas that support recreation opportunities at the primitive end of the recreation opportunity spectrum. This will increase the need for conservation of natural features in parks and protected areas. The demand for new natural areas will also likely grow. A critical issue will therefore be the ability to provide quality wilderness in light of increasing competition for a finite land base from other primarily commercially oriented land-use interests.

High-Risk Recreation — Despite liability suits and the incidence of loss of life, the demand for high-risk or outdoor adventure recreation is likely to increase (McLellan 1986). For many participants in these activities, unmodified natural

environments are important components of the overall recreation experience.

Pressures on Water-Based Recreation Resources — Demand for rivers, lakes, reservoirs, and other wetlands which provide opportunities from primitive to highly developed settings is likely to continue. For most water-based activities, water bodies must have specific characteristics to make the activity possible and enjoyable. For many land-based activities, water bodies provide a desirable though not essential backdrop. The relative shortage of high quality water-based recreation resources in many parts of the province means that careful planning and management of the resources available will be required to meet future demand. Changes in the hydrological regime of rivers through the construction of dams and problems of access to lake shores are two issues associated with the provision of water-based recreation opportunities and need to be considered in recreation planning.

Snow and Ice Activities — Evidence from the United States suggests that the demand for snow and ice activities, including, downhill and cross-country skiing and snowmobiling, will continue to expand (Cordell and Hendee 1982; Kelly 1987). Many parts of the province in both the White and Green Areas assume added recreational value during the winter. Resource planning and management within Alberta should therefore take account of this diversity and seasonality of recreation opportunity.

Near-Urban Recreation Opportunities — There will continue to be a high demand for a wide range of outdoor recreation opportunities which can occur within relatively close proximity to urban centers. Areas which therefore exhibit a combination of site quality and locational convenience for the user will become increasingly sought after. The Bow River in the case of Calgary and the Blackfoot Area near Edmonton exemplify this type of opportunity. There is a danger that because many of these do not exhibit outstanding intrinsic resource significance their recreational potential will be lost or severely compromised through overuse and a lack of regulation.

Mechanized Recreation — Another issue associated with future recreation demands is the continuing use of off-road vehicles as a means of transportation for participating in other recreation activities and the unstructured use of vehicles to produce the recreation experience in and of itself (Nicholes 1980). Typical complaints levelled against off-road vehicles and their users include: (1) conflict with non-mechanized recreationists because of noise, air pollution, and ecological damage; and (2) disruption of wildlife and their habitat.

Mechanized forms of outdoor recreation provide legitimate recreation experiences which must be met within the recreation opportunity spectrum. However, careful attention must be given to the location of such opportunities in order that these activities do not degrade environmentally significant areas or conflict with other recreation activities.

In the future there will likely be increasing demand from "mechanized" recreationists for greater consideration in land-use planning and management decisions for areas to meet their particular needs. There will be an even greater need to develop access management plans in critical areas. The access management plan being developed for the Castle River area of the Eastern Slopes illustrates one such approach. Similar demands are also likely to come from participants in water-based mechanized forms of outdoor recreation.

"Urbanized" Recreation Areas — Recent proposals for commercial recreation and resort development both within and outside park boundaries illustrate that there is a particular market segment which wishes to avail itself of "urbanized" recreation environments. These types of environments, whether they are associated with marinas, campgrounds, or skiing facilities, frequently result in substantial resource modification in

order to enhance or create specific high density recreation opportunities. Increasingly, these types of developments, which are generally capital-intensive and involve convenience-oriented facilities, are likely to be operated by the private sector.

In order to ensure sustainability of the resource base and the recreation experience sought by other recreationists, appropriate guidelines must be established for these developments and they must be monitored to ensure that they adhere to these guidelines. In instances where the ecosystem is unique or extremely sensitive, the development of "urbanized" recreation environments should be considered inappropriate and prohibited.

This sub-section has attempted to illustrate some of the issues associated with future recreation demand as they relate to the resource base. It is almost inevitable that new developments in the outdoor recreation field will place different demands on the environment and create tension with other recreationists. "Overall, demand for most kinds of outdoor recreation opportunities can be expected to grow slightly" (Kelly 1987:150).

FUTURE LAND REQUIREMENTS

Natural Land/Water Base

An adequate and appropriately managed land/water base is essential for the protection of Alberta's natural heritage and the provision of outdoor recreation opportunities. New conservation initiatives involving both the public and private sectors, together with the inclusion of heritage and amenity values in land-use planning, complement but do not replace the need for legislatively designated protected areas (see IUCN 1980). Defining what constitutes an adequate protected land base is difficult. However, a number of criteria are normally used including, the total area protected, the level of representation of the different natural regions, and the size, configuration and geographical distribution of individual protected areas (see IUCN 1980; Webb 1987).

The Brundtland Commission (World Commission on Environment and Development [WCED] 1987) recommended that at least 12 percent of a nation's land area should be fully protected. This figure has been endorsed in the Canadian Wilderness Charter (Hummel 1989). Using this criterion, Alberta's 10.5 percent (Table 3) compares favorably to the recommended figure. However, a portion of this area is zoned and/or used intensively for a variety of types of outdoor recreation which are not always compatible with resource protection (Pachal in preparation).

A more critical yardstick for evaluating protected areas is the extent to which a park system incorporates a representative sample of a country's or province's natural diversity. The *World Conservation Strategy* (IUCN 1980) stresses the importance of protecting the complete range of ecosystems. Similarly, the underlying rationale for both national and provincial park systems in Canada has been the designation of a representative system of parks (Hackman 1990; Swinnerton 1984).

In Alberta this diversity is reflected in the six natural regions which are further sub-divided into seventeen biogeographical zones (Figure 5). Representation of these natural regions and biogeographical zones within a protection-oriented provincial parks system has been a long-standing objective of Alberta Recreation and Parks (see Alberta Recreation, Parks and Wildlife 1977; Alberta Recreation and Parks 1979, 1986, 1988b, 1989c). However, the *Provincial Parks Five Year Plan 1980 – 1985* (Alberta Recreation and Parks 1979) noted that, despite taking into account designated areas such as national parks, provincial parks and wilderness areas, there were significant omissions to the pattern of representation. Most noticeable was the inadequacy of representation for the grassland and parkland natural regions. The same document drew attention to the high degree of competition from alter-

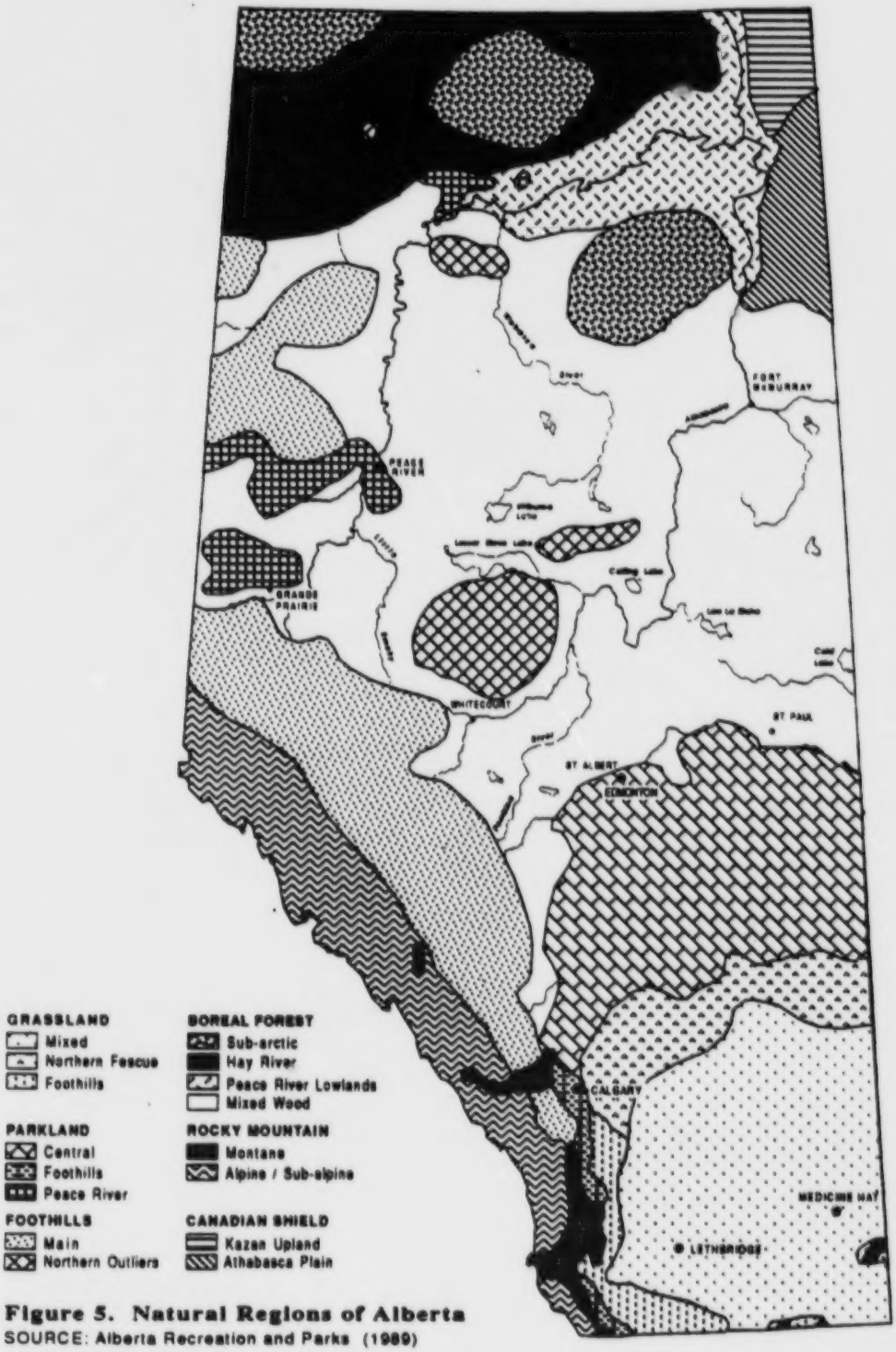


Figure 5. Natural Regions of Alberta
SOURCE: Alberta Recreation and Parks (1989)

native uses that existed for the remaining natural areas. The continuing vulnerability of the prairie grasslands and the aspen parkland has been highlighted in the *Prairie Conservation Action Plan* (World Wildlife Fund Canada n.d.) (see also Alberta Recreation and Parks 1989c; Butler 1985; Pachal in preparation; Wildlife Habitat Canada 1986).

Recent estimates suggest that Alberta's system of protection oriented parks is approximately 40 percent complete (Alberta Recreation and Parks 1989c). There is no representation of five of the seventeen biogeographical zones within the provincial system. Representation of the remaining twelve biogeographical zones is approximately two-thirds complete. Pachal (in preparation) has indicated that one-quarter of the seventeen biogeographical zones have adequate representation, whereas the World Wildlife Fund has suggested that only two of the seventeen zones are adequately represented (Hackman 1990).

During the latter part of the 1980s, the creation of eleven ecological reserves and the establishment of a substantial number of new natural areas under the Wilderness Areas, Ecological Reserves and Natural Areas Act have made important contributions towards achieving a system of provincially significant protected landscapes. However, many papers prepared for the Policy Statement for the Ministry of Recreation and Parks (Alberta Recreation and Parks 1985) emphasized the urgency for a more active land acquisition program to complete a representative system of protected areas. This need for urgent action was also recognized by the Minister of Environment's Task Force on Park Establishment (1987:6) when it stated "future land use options are being foreclosed on a massive scale in this generation. By the year 2000, the possibility of dedicating wilderness lands to conservation will have all but vanished."

Reference was made earlier in this paper (Chapter Two) to the size limitation of many of the provincial parks and ecological reserves in Alberta. Despite the recent additions to some provincial parks, including Dry Island Buffalo Jump and Writing-On-Stone, many of the parks are too small to adequately protect representative samples of natural systems or processes. This size constraint also limits the ability of many provincial parks to accommodate many dispersed forms of outdoor recreation which require an extensive land base.

Although Alberta contains three wilderness areas (Siffleur, White Goat, and Ghost River) protected under the Wilderness Areas, Ecological Reserves and Natural Areas Act and the Willmore Wilderness designated under the Willmore Wilderness Act, the Alberta Wilderness Association (1985) and a number of other environmental groups have advocated the establishment of wildland recreation areas in both the Green and White Areas of the province. These areas would not only protect essentially unmodified natural environments but would provide the appropriate resource base for traditional non-motorized outdoor recreation activities such as travel by horse, foot or canoe, fishing, and hunting (see Pachal in preparation).

The designation of the Bighorn Wildland Recreation Area in 1986 and the Wild Kakwa Wildland Recreation Area in 1987 in the Green Area illustrate recent developments in recognizing the recreation potential of wildlands. However, protected areas identified solely through policy remain extremely vulnerable to land-use pressures originating from both recreation and non-recreation uses. This problem applies to areas zoned as Prime Protection, Critical Wildlife and General Recreation within the Eastern Slopes (Pachal in preparation). Legislative controls afforded through the ten existing forest land use zones provide more meaningful protection to designated areas but there remains the constant difficulty of surveillance and enforcement when extensive areas are involved.

Concern has also been expressed about the relative lack of attention given to the protection of linear or corridor resources which exhibit conservation, preservation or recreation values. Although the importance of these trail and waterway resources has been recognized (Alberta

Government Recreation Committee 1974, 1978), little progress appears to have been made in the establishment of heritage and/or recreation corridors (Swinnerton 1984; Shaw 1985). Alberta remains one of only two provinces in Canada which have not entered into the Heritage Rivers Program. The revised draft of the Policy Statement of the Minister of Recreation and Parks (Alberta Recreation and Parks 1986) acknowledges the need to provide opportunities for corridor recreation on both land and water. The Alberta Forest Service's Recreation Program in 1982 made specific reference to the provision of year-round trail-related activities including hiking, horseback riding, ATV, snowmobiling, cross-country skiing, boating, and canoeing. Alberta Environment has also commissioned studies that have examined the tourism and recreation potential of some of the province's rivers (Swinnerton and Dykstra 1986).

The development of longer distance hiking trails within the province has largely been promoted by volunteer groups. Examples include the Waskahegan Trail, the Athabasca Landing Trail and the Great Divide Trail (Kreisel 1987). In the case of the first two trails, access onto private land has been a significant feature of their development.

Man-Modified Landscapes

Another dimension of heritage conservation which has received limited attention is the heritage value of man-made or man-modified landscapes. G.D. Boggs Associates Limited (1976) proposed the designation of landscape conservation areas in Nova Scotia which would involve:

> *...the preservation of a large tract of landscape which contains a mosaic of aesthetic, physical and cultural attributes which collectively give the area a distinct and significant "flavor."* (G.D. Boggs Associates Limited 1976:194)

Landscape conservation is an integral part of national parks in England and Wales, many European parks, and more recently, greenline parks in the United States (Swinnerton 1984). In addition, there is increasing recognition of the need to protect rural historic resources and the environments of which they are a part (Stokes, Watson, Keller, and Keller 1989). The growing importance of Alberta's White Area for recreation and tourism and a broadening awareness of the amenity value of the cultural landscape suggest that the application of the landscape conservation area concept to selected parts of the White Area would add a much needed dimension to the conservation of this province's heritage. The success of the tourism destination area program undertaken by Travel Alberta ultimately depends to a large extent on retaining the amenity value of Alberta's countryside. In addition, the economic and social advantages to be gained from an appropriate balance between heritage resource protection and resource development in the form of traditional rural land uses and compatible forms of tourism is demonstrated by areas included within the national parks of England and Wales (MacEwen and MacEwen 1987). Poore (1982), for example, has suggested that national parks in England and Wales, incorporating private land and a productive rural economy, are particularly well-suited to demonstrating the World Conservation Strategy's theme of resource conservation for sustainable development. The British situation demonstrates the way in which Alberta could be planning and managing its resources outside parks and other protected areas.

Program Expansion

Realization of the recreation and heritage resource protection potential of the White Area will require the expansion of existing programs and the development of new initiatives (Swinnerton 1984). Some of the more important considerations are:

Conservation Ethic Among Landowners — Nothwithstanding the existing programs such as the Landowner Habitat Project (Westworth & As-

sociates Ltd. 1990), additional programs, of both an advisory and incentive nature, could be developed to encourage private landowners to manage their resources to maintain the amenity value, including the ecological value, of the rural environment. For example, programs advocated by the Canadian Wildlife Service and Alberta Fish and Wildlife could be broadened in scope to encompass the amenity value of the countryside as a whole (Swinnerton 1984). The discussion paper "Conservation Reserve for Marginal Land" (Prairie Farm Rehabilitation Administration 1987) is another example of a more balanced perspective to the management of the rural land base which should be adopted. Wildlife Habitat Canada (1987) has acknowledged the need to progress from solely a "spot zoning" of Canada's natural areas through the designation of specific protected areas to a more holistic "landscape" approach.

Participation of Non-Government Agencies — Several local interest groups and non-government agencies are already involved in environmental conservation. River Lot 56 in St. Albert and Wagner Bog, to the west of Edmonton, show the commitment of local groups and organizations to grassroots resource protection and the eventual more formal recognition of areas under the Natural Areas Program. Public involvement in the Natural Areas Program is also illustrated by the formal Volunteer Steward Program which was initiated in 1987 and now involves volunteer stewards being assigned to over eighty of the natural areas in the province. Involvement by the Nature Conservancy of Canada in the acquisition of the Wagner property in 1973, Clifford E. Lee Nature Sanctuary in 1983, and the Ann and Sandy Cross Conservation Area in 1988 provides evidence of cooperation between local interest groups and a national non-government organization. The Park Ventures Fund which has been established under the auspices of the Recreation, Parks and Wildlife Foundation enables the donations of land, money, or other assets to expand recreation and conservation opportunities in Alberta. Publication of a *Conservation Kit* by the Environmental Law Centre (1986) which provides a legal guide to a variety of conservation measures and practices affords further evidence of the interest in the role of the private landowner.

The protection of environmentally significant areas, the completion of a protected representative landscape system, the establishment of recreation corridors, and the development of a wider range of outdoor recreation opportunities in close proximity to the user population will likely necessitate greater consideration of the role of the private sector in achieving these objectives. As a result, alternative mechanisms for incorporating selected areas of the private land base in a provincial heritage conservation-outdoor recreation system need to be examined.

Innovative techniques and alternatives including easements, management agreements, and trusts have been adopted in many countries (see Swinnerton 1984), and there is increasing evidence that serious consideration is being given to their application in various parts of Canada (Hilts 1989). The Minister of Environment's Task Force on Park Establishment (1987) refers to the establishment of a new family of conservation agreements and the strengthening of the heritage constituency through various forms of funding initiatives and the involvement of non-government organizations and local interest groups. Alberta Recreation and Parks (1986) in its revised draft Policy Statement has specifically noted the possible use of private land for recreation corridors.

White Area Conservation — Significant areas of public land occur within the White Area. It is important that these areas are planned and managed in a way which encourages, by example, appropriate conservation practices and provision for outdoor recreation.

Role of Federal and Provincial Agencies — Federal and provincial agencies which have both a direct and indirect influence on land management decisions within the private sector should

encourage and facilitate practices which are supportive of sustainable development and environmental conservation. For example, the predominantly food production orientation of Alberta Agriculture should be tempered by consideration of the broader purposes of land management. Consideration of the amenity value of the countryside would then become an increasingly important consideration in agricultural policy and funding (see Rural Environment Sub-Committee 1988; Wildlife Habitat Canada 1987).

Role of Regional Planning Agencies — Although most regional plans in Alberta acknowledge heritage resource protection and outdoor recreation provision as aspects of land-use planning, further attention should be given to closer cooperation between statutory planning and the implementation of a heritage conservation-outdoor recreation system. During the 1970s, many regional planning commissions undertook studies which examined the resource base for recreation and conservation within their respective areas (for example, Peace River Regional Planning Commission 1974; Red Deer Regional Planning Commission 1978). More recently some regional planning commissions, including Calgary's and Red Deer's, have prepared Environmentally Sensitive Areas Studies. The Red Deer Regional Planning Commission is supporting the preparation of these studies on a county and municipal basis, the results of which will be used in the evaluation of subdivision and development proposals.

Role of Local Governments — County and municipal recreation and parks departments need to become more aware of the resource base requirements for outdoor recreation beyond traditional park settings. The *Outdoor Recreation Master Plan 1987* prepared by Strathcona County Recreation and Parks (1987) is an example of a multifaceted plan for providing a comprehensive park system and protecting unique and representative outdoor areas and resources. The plan also recognizes the need to employ innovative approaches to private conservancy and the role of public awareness and education.

Near-Urban Recreation Space — The absence of appropriate recreation open space in close proximity to many urban centers remains an important issue. The announced expansion of the Urban Parks Program in 1989 provides a partial solution to the problem. However, acquisition of land is becoming increasingly difficult in many areas. Difficulties arise from the relative shortage of suitable land, the cost of land acquisition, the political implications of government land acquisition, and the competition for land from alternative interests. As a result, the potential of the private sector, particularly through the use of private agricultural land, is seen as a partial solution to expanding the recreation resource base.

At present, there are few incentives for the private landowner in Alberta to encourage or tolerate public recreation on private land. As well, there are some important deterrents, such as the problem of compensation for property damage by recreationists and for benefits foregone, and the question of the landowner's legal liability (Cullington 1980; Swinnerton 1982). The growing recreation pressures on private lands require planning and specific strategies to increase incentives and reduce deterrents.

In reviewing the land requirements for heritage resource protection and outdoor recreation in Alberta, one of the findings from the President's Commission on Americans Outdoors (1986) is appropriate:

> *Perhaps the biggest problem is that we take the outdoors for granted; we assume that it will always be there, not recognizing that its maintenance depends on each of us.* (President's Commission on Americans Outdoors 1986:9)

Chapter Five

Sustainable Use of Parks and Outdoor Recreation Settings

The concept of sustainable use implies the wise use of resources through the maintenance of long-term productivity and keeping open as many options as possible for future operations (Manning, E.W. 1986). Open spaces which retain their natural characteristics, whether as larger urban parks or protected areas such as national or provincial parks, provide flexibility and excellent holding capability in land-use terms. These areas also make important contributions to supporting natural processes and sustaining the ecological balance of the world's ecosystem (Allen 1980). In addition, low-impact and non-consumptive forms of outdoor recreation can have minimal adverse effects, relative to many other forms of land use, on most ecosystems. Achieving and retaining sustainable use in the parks and outdoor recreation sectors requires careful planning and management.

One of the major complications in achieving sustainable use in outdoor recreation and the protection of heritage and amenity values is the principle of multiple land-use. Retention of these opportunities and values is frequently the shared responsibility of two constituencies with quite different priorities: one focusing on resource protection, the other on resource productivity largely achieved through the transformation or manipulation of natural systems. A more detailed examination of the interface and interactions between parks and outdoor recreation and other resource and land-use interests is contained in Chapter Six. However, since the practice of multiple use does have a direct bearing on the provision of sustainable recreation opportunities, a brief review of the issue is appropriate in this section.

IMPLICATIONS OF MULTIPLE USE

Multiple use is often extolled as a panacea to land-use planning problems, particularly in those circumstances where there are a variety of demands for limited resources (Pearse 1969). Despite the wide acceptance of the concept of multiple use, it is frequently expressed in extremely vague terms and its application has been less than satisfactory (Environment Council of Alberta 1979).

In Alberta, public lands, particularly in the Green Area, are required to meet multiple-use objectives on an aggregate basis, but for the most part, integrated resource planning is directed towards a "linked" use arrangement through the adoption of land-use zones. However, this has not precluded the adoption of multiple-use practices in selected areas. The preparation of integrated resource plans provides the basis for this multi-sectoral approach to land-use planning within the public land base of the province (Alberta Forestry, Lands and Wildlife 1988).

Probably the overriding problem with the application of the multiple-use concept is that compatible uses tend to become situations of conflict with increasing intensity of demand over time (Pearse 1969). This problem is compounded by the fact that most individuals and agencies conceive of multiple use as consisting of a priority

use (preferably their own interest) with subsidiary uses if they are compatible (Environment Council of Alberta 1979).

The inclusion of recreation as one component in a multi-use relationship is widespread (Swinnerton 1982). Four factors have contributed to this situation.

First, outdoor recreation activities are quite diverse and many are non-consumptive.

Second, the pressure of the recreationist, except in certain critical areas, has not been of sufficient magnitude to create an unacceptable impact (environmental, social, or economic) on the other land-use interests involved in a joint use relationship.

Third, recreation may benefit from a multiple-use arrangement because of the contribution that the other land uses make, through positive externalities, to recreation. Examples of these externalities include interesting cultural landscape patterns resulting from agriculture, the provision of access roads and trails as an outcome of timber harvesting, and the opportunities afforded by reservoirs for a variety of water-based recreation activities.

Finally, outdoor recreation is not a particularly effective competitor in economic terms for extensive areas of land and consequently, in a competitive land-use situation, it is difficult for recreation to achieve single-use status. As a result, recreation has frequently little option but to take place as a secondary form of land use in a so-called multiple-use situation.

Consequently, the provision of the required setting attributes (biophysical, social, and management) which should ensure sustainable recreational use and benefits are frequently determined by constituencies and agencies who have recreation as a subsidiary component of their mandate and interests. In addition, not all primary resource interests appreciate the negative externalities which might arise because of management decisions made within their sectors.

Despite the apparent compatibility between recreation and many other forms of land use, the compromise to foster compatibility is becoming increasingly difficult to establish and maintain. For example, agriculture is becoming more intensive in its use of land and this trend imposes important limitations for the use of farmland by the recreationist, as well as affecting the quality of fish and wildlife habitats (see Glasgow 1982). At the same time, increasing participation in a variety of recreation activities (see Chapter Four) means that conflicts will undoubtedly increase in the future. There are two other factors that are undermining the harmony between recreation and other land uses. First, there is the growing recognition that even so-called non-consumptive forms of recreation have a significant impact on the environment (Wilkes 1979), particularly if large numbers of people are involved. Second, there is an increasing feeling that too much significance has been given to achieving compromises in multiple land-use planning and management decisions prior to undertaking a realistic and thorough examination of which land uses are genuinely compatible (Green 1977).

Achieving sustainable use in parks and other outdoor recreation areas may be considered from two, though not mutually exclusive, perspectives: first, through the expansion of opportunities for outdoor recreation and heritage resource protection by the establishment of new areas; and second, through appropriate planning and management strategies which ensure that the carrying capacity of existing areas is not exceeded.

EXPANDING THE LAND BASE

Sustainable use through the provision of new areas and new opportunities is primarily concerned with sustaining or maintaining the total benefits and values that may be derived from parks and recreation. The total flow of benefits derived from protected areas and outdoor recreation (Chapter Three) could be maintained by establishing new areas to compensate for land losses to mining development and logging or the decline in the level of satisfaction obtainable from existing areas because of environmental degrada-

tion, activity conflicts or overcrowding. Many forms of outdoor recreation do not require specific setting attributes. Consequently, alternative locations and sites may be used. However, certain forms of outdoor recreation have very specific resource requirements which are difficult or impossible to replicate or acquire in other areas. Unique ecological sites or cultural heritage resources come into this category as do pristine wilderness and heritage rivers.

The need to expand the land and water base for heritage resource protection and outdoor recreation was noted earlier (Chapter Four). Additional areas are required not only to complete a system of provincially significant protected landscapes but also to safeguard special features (Alberta Recreation and Parks 1986; Swinnerton 1984). Potential areas for protected designation are discussed in greater detail by Pachal (In preparation).

In 1984, Alberta Recreation and Parks (1984) determined that the department's direct need for additional lands to support its programs totalled 2,476 km^2 or 0.4 percent of the province's area. Inclusion of this extra land would have resulted in a total figure of 4,741 km^2 or 0.7 percent of the province. Reference to Table 3 shows that the area of land currently under protective reservation totals 1,616 km^2 or 0.2 percent of the province's area.

Although Alberta Recreation and Parks (1988b:21) has stated "we will demonstrate exemplary conservation and management practices within our parks system," there remains the issue of safeguarding the intrinsic qualities of potential parks, wilderness areas, and ecological reserves. At present such areas are identified as consultative and protective notations under the Reservation System of the Public Lands Division of the Department of Forestry, Lands and Wildlife. In a number of provinces a reserved land class within the respective provincial park classification system provides for lands to be managed and protected for future inclusion within one of the more specific park classes. This latter approach affords a greater level of protection and consideration of the particular management requirements of protected areas.

Expansion of protected area designations within the province is frequently seen as limiting the opportunities for more traditional forms of resource development and inhibiting productive use of these areas. Such a perspective fails to recognize a number of important points.

First, protected areas do provide a variety of values and benefits which apply to the individual and society as a whole. Moreover, many of these benefits apply to both the present population and future generations (Chapter Three). Second, an inability to accommodate protected areas reflects poorly on society's ability to manage resources outside these areas. Protected areas are a legitimate part of the overall range of land management activities (Stankey 1980). Finally, Crown lands under legislated protected status in Alberta account for 69,111 km^2 or 10.5 percent of the province's area (see Table 3). Within this 10.5 percent there is a considerable area which is zoned and/or used for recreation development and supporting infrastructures. This 69,111 km^2 of protected land might be compared to the 73,430 km^2 associated with the proposed forestry project of Alberta-Pacific Forest Industries Inc., and the 40,710 km^2 land requirements associated with the Daishowa Canada Co. Ltd. project. These are only two of the thirteen existing and proposed forest projects in northern Alberta (Nikiforuk and Struzik 1989).

Expansion of the land base for heritage resource protection and the provision of outdoor recreation opportunities, even if it could be achieved on a large scale, will not provide a complete solution to achieving sustainable use simply because there is not an infinite land base. In addition, failure to optimize the sustainability of benefits which may be derived from existing areas assigned to heritage resource protection and/or outdoor recreation is contrary to the principle of sustainable use as contained in the World Conservation Strategy.

SUSTAINABLE USE OF EXISTING AREAS

In the case of protected areas, such as parks or outdoor recreation settings, sustainable use is most frequently expressed in terms of the concept of carrying capacity. Manning, R.E. (1986), however, has noted that carrying capacity is a:

> *...rather complex concept involving resource, experience, and managerial considerations, an understanding of the role of change in the recreation environment, and the need for management objectives which involve difficult value judgements.* (Manning, R.E. 1986:45)

As a result, sustainable use or carrying capacity cannot be divorced from the need for management objectives for a heritage conservation-outdoor recreation system as a whole and for its individual components. Carrying capacity is a means to an end in which the distinction between technical issues (what can be) and value choices (what should be) must be recognized.

Sustainability of a system requires a clearly stated set of purpose, goals and objectives for the system and its components. Table 2 demonstrates that the tension between heritage conservation and recreation may be addressed by assigning specific roles to the different "classes" within the system. The purpose and objectives of the respective classes should provide the guidelines within which specific planning and management decisions are made to ensure sustainability of the system and its components.

For example, the primary purpose of ecological reserves is the preservation of functioning ecosystems. Sustainability of ecological reserves should therefore mean that objectives which might compromise or undermine that purpose, such as heritage appreciation, outdoor recreation or tourism, take a subsidiary role and are terminated if they threaten the intrinsic value of the ecosystem and the natural processes involved. In such areas there should be no attempt to increase the carrying capacity by trying to make the ecosystem more resilient and resistant to human impact. The carrying capacity should be exclusively determined by the thresholds of the natural system. Furthermore, a different management strategy might be required for preservation of a natural ecological process as opposed to preservation of a particular segment of an ecosystem, or seral stage (Reid 1979), so the objectives of each reserve should be precisely established.

Recreation areas within the system, which may provide intensive outdoor recreation opportunities in modified or man-made settings, have more flexible carrying capacity thresholds for sustainability. Carrying capacity in these areas is largely determined by design and engineering considerations and the psychological capacity of crowding rather than ecological determinants. Not infrequently, the carrying capacity, and therefore the sustainable use of such areas, may be increased by improving facilities and "hardening" the environment through the replacement of natural ground cover by man-made surfaces.

With most systems the critical area of concern is the "middle ground" where a variety of purposes and objectives coincide. In the case of Alberta Recreation and Parks' conservation-outdoor recreation system, this middle ground is represented by provincial parks. Provincial parks are expected to meet resource protection, heritage appreciation, outdoor recreation, and tourism objectives (see Table 2). The range of activities and facilities which may be provided within provincial parks (see Alberta Recreation and Parks 1986) is considered by many people to be inappropriate to the resource protection purposes of this class within the system (see Swinnerton 1987).

Although Alberta has identified two classes of provincial parks — heritage and natural environment — it remains questionable whether or not they will provide an adequate framework for

dealing with the dual mandate of resource protection and the provision of outdoor recreation opportunities.

Park Classification Systems

Park classification systems have been developed in most provinces across Canada in order for provincial park authorities to achieve an appropriate balance between heritage resource protection and the provision of outdoor recreation opportunities (see Swinnerton 1984).

In the case of Alberta, Ministerial Order 6/79 established a classification of provincial parks consisting of: (1) preservation parks; (2) wildland parks; (3) natural environment parks; and (4) recreation parks. Ministerial Order 10/83 subsequently rescinded 6/79 and the four-fold classification was replaced by the recognition of two categories — provincial parks and recreation areas. The revised draft of the Policy Statement (Alberta Recreation and Parks 1986) identified two classes of provincial parks — heritage and natural environment.

A park classification system should facilitate the sustainability of the park system by providing guidelines and direction for resource protection as well as recreation use. Within the managing agency, park classification provides guidelines for planning, management and operations (see Alberta Recreation, Parks and Wildlife 1977). Equally important is the fact that an effective park classification provides the park visitor and general public with a means by which they may select park destinations which are most likely to provide them with settings and activities best suited to the type of recreation experiences being sought (see Alberta Recreation, Parks and Wildlife 1977; G.D. Boggs Associates Ltd. 1976). As a result, park classification should limit interaction, and therefore potential conflicts, between park visitors seeking markedly different recreation experiences.

Zoning

Zoning, as a technique for allocating land uses, has traditionally been used as a means of sustaining the value of a resource through "minimizing land-use conflicts and degradation" (Walther 1986:331). In the case of parks, zoning is closely related to carrying capacity and park classification (Alberta Recreation and Parks 1986; Yapp and Barrow 1979).

Zoning offers refinement within the context of a park classification system by identifying significant resources and/or potential recreation experiences which differ from the broader management strategy implied by a particular park class. For instance, the intention for Alberta's provincial parks is that within the two-fold park classification there will be a zoning framework with such zones as natural, outdoor recreation, historic, facility development, and special use (Alberta Recreation and Parks 1986).

Park classification, however, is not a prerequisite to zoning. In the case of Canada's national parks, for example, no formal classification system exists. Zoning is the mechanism adopted to facilitate the achievement of management objectives for the individual parks. The five zones used by the Canadian Parks Service provide the basis for achieving a balance between preservation and use (see Parks Canada 1979). Under the revised National Park Act (1988), areas designated as "wilderness zones" have legislative status which prohibits development except for public safety and natural resource protection requirements.

Zoning as a land-use planning and management tool is not restricted to parks. In the case of the Eastern Slopes, for example, the eight zones provide the basis for meeting the three broad objectives of protection, resource management, and development (Alberta Energy and Natural Resources 1984a). The zones provide a broad indication of compatible, permitted, and not permitted use on the basis of resource base sen-

sitivity, significance, and compatibility with other use activities.

Although zoning as a technique for resource management has come under recent criticism (Walther 1986) — not least because of the ultimate subjectivity and value judgments involved in assessing thresholds for environmental degradation, compatibility, and conflict — the underlying premise of spatial segregation as a means of ensuring sustainability of use and experience is widely accepted and practised.

Zoning may also be applied in a time dimension. The time factors within which different uses occur may vary from short periods, such as diurnal patterns, to longer periods associated with seasonal changes. Temporal zoning may also be used as a management tool for applying time limitations on the use of sensitive recreation areas. Rotational use of recreation areas as a means of sustaining the attractiveness and carrying capacity of an area is another application of temporal zoning.

Recreation Opportunity Spectrum

In the same way that the four major classes within Alberta Recreation and Parks' conservation-outdoor recreation system provide a framework for ensuring the sustainability of heritage values and recreation opportunities within a specific system, the recreation opportunity spectrum (ROS) provides the framework for provincial, regional, or local areas. As a result, provincial parks or recreation areas may be considered as specific jurisdictional categories of land which provide semi-primitive to modern opportunities within the system. In contrast, opportunities provided by the Alberta Forest Service are almost exclusively at the primitive end of the spectrum.

The recreation opportunity spectrum concept recognizes the interdependence of activity, setting, and experience which may be considered to occur along a spectrum from primitive to urban. As a result, the concept offers both a means for inventorying recreation resources and a mechanism for evaluating the sustainability of a particular type of recreation opportunity.

Complementary to the recreation opportunity spectrum is the "Limits of Acceptable Change" (LAC) System (see Stankey, Cole, Lucas, Petersen, and Frissell 1985). The LAC System provides an approach for identifying acceptable conditions and prescribing actions for protecting both social and resource conditions in recreation settings. Although it has been used primarily for deciding "what kind of wilderness conditions are acceptable, then prescribing actions to protect or achieve those conditions" (Stankey et al. 1985:2), the LAC System could be applied to any condition along the recreation opportunity spectrum. The preoccupation with examining the primitive end of the spectrum is not surprising because it is difficult or impossible to recreate the biophysical attributes of that setting. The carrying capacity, in both an environmental and psychological sense, is extremely vulnerable and sensitive to change.

Most recreation settings tend to show a gradual succession in conditions which reflect a shift from primitive (intrinsic) to urban (extrinsic) (see Dustin and McAvoy 1982). Schreyer and Knopf (1984) have described the succession in the following way:

> *The prototypical scenario involves swelling numbers of visitors to a recreation environment, the construction of new facilities and other support services to accommodate them, and the subsequent arrival of a whole new clientele who are attracted by the support services rather than the original character of the setting.* (Schreyer and Knopf 1984:10)

The long-term implications of this trend have prompted Dustin and McAvoy (1982) to comment on the ability of visitors to adjust to extrinsic recreation environments and to caution recreation planners and managers against responding to the needs of these recreationists to the ex-

clusion of those who continue to seek intrinsic settings and activities.

The development of Kananaskis Country would seem to be one example of this type of succession in Alberta and there is increasing concern that proposed developments in Banff and Jasper national parks could stimulate a similar trend. Even when these changes occur by purposeful action, as was the case in Kananaskis, the interests of conservationists and developers invariably conflict. When national parks are involved, the issue is further complicated by their primary mandate to protect the national heritage.

Application of the recreation opportunity spectrum should help to ensure that unwanted shifts, resulting from changes which are unplanned or unacceptable, do not occur. The difficulty with many outdoor recreation opportunities is that management of the settings is frequently the responsibility of other resource agencies which do not understand the needs of recreationists.

Visitor Management

In the past the preparation of management plans for protected areas has focused largely on evaluating the physical resource base. More recently there has been an attempt to integrate both resource protection and recreation experience strategies. Indicative of this approach is the adoption of the Visitor Activity Management Process by the Canadian Parks Service (1988).

However, despite the provision of a variety of recreation opportunities and the application of park classification and zoning systems, displacement and substitution do occur because of environmental degradation and conflicts between different types of resource users (see Manfredo and Anderson 1987; Swinnerton 1982). All forms of outdoor recreation create some impact on the environment in which they take place, although mechanized forms of activity, whether land- or water-based, more seriously impinge upon the ecology and other users of an area. Wall and Wright (1977) and Hammitt and Cole (1987) have examined the impact of outdoor recreation on geology, soils, vegetation, water quality, wildlife, and air. Alberta examples can be found to illustrate all of these situations from trail biking on the Cardinal Divide to compaction of trails within the river valley park system of Edmonton. Unfortunately, some of the most sought-after recreation environments are the most fragile from an ecological standpoint. Alpine meadows and sand dune areas are good examples of this problem. Defining an acceptable level of use, and therefore the carrying capacity of all of these recreation settings, is difficult because of the different perceptions that recreationists and managers have as to where and when critical thresholds have been exceeded.

Jacob and Schreyer (1980) identified four conditions which potentially produce conflict: (1) activity-style – the various personal meanings assigned to an activity; (2) resource specificity – the significance attached to using a specific recreation resource for a given recreation experience; (3) mode of experience – the varying expectations of how the natural environment will be perceived; and (4) lifestyle tolerance – the tendency to accept or reject lifestyles different from one's own. Any one factor may cause conflict, but most instances entail a combination of them. The level of tolerance between different recreationists tends to be asymmetrical; often one activity group is willing to accept the presence of another type of activity but the reverse is not true. For example, snowmobilers may be tolerant of cross-country skiers but not vice versa.

Visitor management attempts to protect the quality of the recreation or park resources and at the same time provide quality recreation experiences for the participants (see Dustin 1985). Although visitor management is primarily concerned with the recreationist in the park or recreation setting, some visitor management can be achieved off-site. For example, the potential visitor can be made aware of alternative destina-

tions for park and recreation experiences through off-site information and interpretation services. By this means it is possible to efficiently use developed sites and to reduce the visitor pressure on more environmentally sensitive areas. The increasing role of Alberta Tourism in this context is important. A park classification which provides a clear statement of what the visitor is likely to find within a particular park class and the primary purpose of that particular class of park is an important attribute of a balanced visitor management system. A critical point, however, is that all potential visitors are made aware and understand the significance of the park classes.

Once on site, visitor management may be pursued in a number of ways involving both indirect and direct methods (McAvoy and Dustin 1983). Indirect methods involve: site management including site design, landscaping and engineering; providing the users with behavioral options through informing and educating them; and the application of pricing systems. Direct methods of visitor control emphasize regulation of behavior and restriction of choice.

Although indirect methods of regulation have been preferred over direct methods, indirect methods tend to be less effective. As a result, McAvoy and Dustin (1983) have argued for the direct approach on practical and theoretical grounds. Experience has shown that the appropriateness of the method(s) used must take into account the nature of the recreation setting, characteristics of the users, and the resources available to the management agency. For example, the management option of hardening the site would be severely restricted in the wilderness zone of a national park where the primary purpose is to preserve the intrinsic attributes of the biophysical setting. Management options for wilderness areas and ecologically sensitive environments have therefore frequently focused on rationing the recreation use of these areas through a variety of techniques including pricing, lotteries, queuing, and permits (see Cole, Petersen, and Lucas 1987).

This chapter has reviewed a variety of approaches for sustaining the flow of benefits and values which may be derived from parks and recreation settings. The next chapter focuses on the positive and negative aspects of the interface between parks and recreation and alternative resource users.

Chapter Six

Interactions With Other Resource Users

No resource use occurs in isolation. Any activity ultimately influences the ecosystem and interacts with other activities. These interactions may be positive and/or negative in nature. One of the major functions of the Alberta Conservation Strategy is to identify these interactions and to demonstrate the need for individual resource sectors to recognize and accommodate the interests of other resource users where appropriate.

During the 1980s, increasing interest was given to the growing stress on Canada's environment. A study by the Lands Directorate, Environment Canada (Simpson-Lewis, McKechnie, and Neimanis 1983:5) defined stress as "...man's activities which have a negative impact on the land resource, affecting land use, land value, and land capability." The report acknowledged the occurrence of natural stress, caused by the earth's natural processes, but focused on those impacts caused by society. Societal impacts result from two fundamental sources: (1) additions to the land involving waste disposal (mine tailings, sanitary landfills) or infrastructure development (human settlement and support services); and (2) subtractions from the land which include extraction (pits and quarries) and depletion of resource capability (degradation of agricultural and forest land) (Simpson-Lewis, McKechnie, and Neimanis 1983).

Impacts on the ecosystem and other resource interests have a number of dimensions including: (1) the magnitude of the impact in terms of geographic scale, intensity, duration, cumulative effects, and potential for readjustment and reclamation; and (2) the degree of importance of the impact. Whereas the former is largely an objective measure, the latter is much more a subjective evaluation strongly influenced by the perceptions, values, and attitudes of the different resource interests involved.

The *World Conservation Strategy* (IUCN 1980) recognized that conservation involves at least two closely linked lines of action: (1) the establishment of designated areas where the primary goal is resource protection through preservation; and (2) the integration and application of a conservation philosophy in all matters involving the use of resources. A similar perspective has been expressed more recently by the National Task Force on Environment and Economy (1987).

In this chapter, the pressures which affect protected areas will initially be examined. Then the interaction of heritage resource protection, outdoor recreation, and other resource users will be discussed.

PRESSURES ON PARKS AND PROTECTED AREAS

Protected areas are frequently perceived as the last bastions of a high quality, natural environment. Lands with protected status in Alberta account for approximately 10.5 percent of the province's total area. However, there is considerable variation between the components of this protected area in terms of long-term effectiveness for safeguarding ecosystems and natural processes. In addition, over three-quarters of this protected area is accounted for by national parks. To a very considerable extent, therefore, heritage resource protection in Alberta continues to rely

on the role of the federal land base. Comparison with other provinces on the basis of the proportion of lands protected through provincial initiatives and programs shows that Alberta comes about seventh (see Swinnerton 1988). Areas protected under legislation provide the focal point of heritage resource protection, but these areas are not immune to change. There has been considerable fluctuation over the years of the boundaries of individual national parks in Alberta (Pachal in preparation). Protected areas are open ecological systems and considerable debate continues to exist over the preferred distribution, size, and configuration of these areas (see Webb 1987). Numerous examples also exist to illustrate the vulnerability of heritage resource and amenity values to pressures originating from both within and outside protected areas. The *State of the Parks – 1980* (United States Department of the Interior 1980) report provided an assessment of the pressures affecting national parks in the United States. The most frequently reported threats included aesthetic degradation, logging, mining, encroachment by exotic plants and animals, visitor impacts, and pollution. Over half of the reported pressures originated from outside park boundaries.

In Alberta, numerous cases may be cited to illustrate existing and potential pressures on parks and other protected areas. Recent proposals to develop roads through remote areas of Banff and Jasper national parks and the possibility of a landfill site being developed adjacent to the western boundary of Elk Island National Park are just some examples. In the Eastern Slopes, considerable controversy recently surrounded Shell Canada's application to drill for natural gas in a prime protection zone of the South Castle area adjacent to Waterton National Park.

The range of resource uses which are not compatible with heritage resource protection and recreation values associated with natural environments may be inferred from policy guidelines.

In the case of national parks, Parks Canada Policy (Parks Canada 1979) states that:

> *National parks are special areas which are protected by federal legislation from all forms of extractive resource use such as mining, forestry, agriculture, oil, gas and hydro electric development and sport hunting.* (Parks Canada 1979:41)

Alberta Recreation and Parks (1986) in the revised draft of its Policy Statement states that:

> *As a broad policy guideline, the ministry will not normally allow the consumptive use of renewable or non-renewable resources in areas of its system.* (Alberta Recreation and Parks 1986:85)

The draft Policy Statement notes that the following resource activities will not be allowed within ecological reserves, wilderness areas, and provincial parks: commercial mineral, oil and gas exploration and extraction; commercial timber operations; agricultural uses including grazing, haying, and cultivation; new utility lines, highways, or other major rights-of-way; water control structures; hunting, trapping, and commercial fishing. However, the draft Policy Statement states that timber extraction, grazing, water control, and animal population control may be permitted for the expressed management purpose of enhancing the conservation and compatible recreation objectives of the area.

INTERACTIONS BETWEEN RESOURCE USERS

The interaction between heritage resource protection and outdoor recreation and other resource interests is evident inside and especially outside protected areas. Some of the limitations in the application of the multi-use concept have already been noted. That the primary orientation of most other resource uses is production rather than protection does create tension. However, some positive interaction is possible. A critical issue is

the sensitivity of natural environments to other resource uses and their management practices.

The sensitivity of natural environments to other resource uses has been described in a study undertaken by Makale and Kyllo Planning Associates Ltd. (1978). The report assessed and categorized policies of the various provincial government departments into three classes: harmonious, potential conflict, and conflict present. Makale and Kyllo Planning Associates Ltd. (1978) assessed natural leisure environments as follows:

> *Natural leisure environments have the greatest potential for destruction. From almost every avenue of governmental involvement, natural area preservation comes into conflict. It is considered necessary that serious and concerted attention be given to this situation and that a policy protecting natural leisure environments be clearly and effectively stated by the provincial government. In addition, decisions affecting natural leisure environments should be made openly and should ideally involve the citizens of Alberta.* (Makale and Kyllo Planning Associates Ltd. 1978:13)

During the period since Makale and Kyllo Planning Associates produced its report, a number of initiatives have been taken which have addressed some of its concerns. These will be noted under the individual resource sectors.

Agriculture

Four broad categories of interaction between recreation and agriculture exist (Swinnerton 1982):

1) Direct competition for agricultural land by both public and private recreation interests and the long-term or permanent loss of land to agriculture.

2) The use of existing farmland for both consumptive (for example, hunting) and non-consumptive (for example, hiking and cross-country skiing) outdoor recreation where there is little or no involvement by the landowner in commercially promoting its recreational use, and where recreation is being superimposed on the existing agricultural use of the land in a multiple use or integrated way.

3) Involvement of the private landowner in habitat retention and management and the promotion and retention of an attractive rural landscape for visual amenity and cultural heritage.

4) Direct involvement by landowners in the promotion and operation of farm-based commercial recreation and tourist activities.

The land taken out of agriculture for recreation purposes is limited in extent. Potential problems are most likely to occur in the rural-urban fringe and areas adjacent to water bodies. Negative impacts include the fragmentation of agricultural land holdings which can make farming operations more difficult and the interpenetration of agricultural land by recreation land uses. Country residential development which is a combination of recreation and urban residential pressures exemplifies many of the problems.

Recreation and agriculture have co-existed harmoniously in the past. Increasing pressures on farmland due to greater numbers of recreationists and changes in the types of recreation activities are, however, creating greater conflict with farming interests, which are attempting to intensify their operations for the purposes of increasing output. For example, the Grazing Lease Task Force (1987) drew attention to problems specifically associated with the issue of access and multiple use.

Other issues associated with the recreational use of agricultural land include: harassment of livestock; physical damage to farm property and crops; compensation for damages; disruption of enjoyment of a person's own property; and the legal liability of landowners if recreationists incur accidents while on private farmland.

Farming has an important influence on the amenity value of the countryside. Changes in agricultural practices change both the ecology and visual appearance of the countryside. Many of these developments reduce the recreation ap-

peal of rural areas. The drainage of wetlands, for example, removes an important habitat for waterfowl and lessens an area's potential for hunting. Such a change also has implications for non-game species and the diversity of landscape components. The initiation of private land stewardship programs to combat this problem was noted earlier (Chapter Four).

Development of recreation and tourism enterprises on farms is of recent origin. The Alberta Country Vacation Association and the Alberta Guest Ranch Association are two examples of initiatives that have taken place during the last two decades. The extent to which the promotion of farm-based recreation and tourism will increase the income of marginal farms is uncertain. However, the potential for farm-based events to expand the tourism attraction of various regions of the province has been identified in tourism destination studies carried out for Travel Alberta (for example, I.D. Systems Ltd. 1984).

For the most part, recreational use of agricultural land occurs by default rather than by design. The role of private farmland in the province's conservation-outdoor recreation system should be clarified. The role of Alberta Agriculture in providing guidance to farmers as managers of the resource base rather than as simply food producers needs to be examined further. At the same time recreationists must be made aware of the pressures they place on the farmer and the agricultural land base (Swinnerton 1982).

Forestry

The forest environment is an important setting for many outdoor recreation activities. Forested lands within the Green Area account for over 40 percent of Alberta's area (Sadler 1978) (see Table 4). Public land management in the Green Area is the responsibility of the Alberta Forest Service. The main objectives of the Alberta Forest Service are:

> *To maintain Alberta's forest lands to ensure a perpetual supply of benefits and products while maintaining a forest environment of high quality.*

Conservation of the forest resource is primarily pursued through timber management practices directed towards sustained yields. In order to ensure that forest harvesting activities result in minimal impact on other resources and users of the forest, there are a number of ground rules regarding forestry operations (Environment Council of Alberta 1979; Renewable Resources Sub-Committee 1990). Annual operating plans required under forest management agreements (FMAs) and timber quotas provide further checks that appropriate environmental safeguards are followed. More recent FMAs make specific reference to procedures for safeguarding the amenity value of forest areas in terms of wildlife, landscape aesthetics, and outdoor recreation (see Swinnerton 1984).

An important issue associated with the interaction between forestry and the protection of heritage resource values is the apparent reluctance of many forestry interests to recognize that sustained yield in forestry is not necessarily compatible with the conservation of heritage and amenity resource values or the provision of outdoor recreation opportunities. Many forestry practices disturb the environment and consequently dilute or compromise the amenity value of an area in terms of aesthetics and wilderness values.

Examples of negative impacts include the alteration of watershed regimes as a result of stream crossings, road construction, and cutting regimes. Logging roads can produce other undesirable results by providing recreationists with easier access to remote areas. These impacts include greater damage to ecologically sensitive areas, the possibility of overhunting and overfishing, harassment of wildlife, and an increase in the

fire hazard. Concern has also been expressed about the size, shape, and orientation of cut areas for landscape values, the application of chemicals, deterioration of water quality, and its effect on fisheries habitat and accelerated erosion (see Clark 1988; Environment Council of Alberta 1979; Weetman 1983). Reaction to logging development in the Upper Oldman watershed of south-western Alberta illustrates the concern that is frequently expressed by environmentalists about the impact of forestry operations and specifically the logging of old growth forests.

A more positive contribution to the protection of heritage resources and recreation opportunities is evident through the role of the Forest Recreation Section of the Forest Land Use Branch within the Alberta Forest Service. The basic objective of the Alberta Forest Service Recreation Program (Alberta Energy and Natural Resources 1982a) has been stated as:

> ...to provide resource oriented, dispersed, extensive recreation opportunities within an integrated resource management framework. (Alberta Energy and Natural Resources 1982a:9)

Implementation of this objective is demonstrated through a number of programs including the administration of the Willmore Wilderness, involvement in the ecological reserves program, the provision of picnic areas, campgrounds, water access points, and linear recreation opportunities for hiking, equestrian use, snowmobiling, and cross-country skiing. The provision of recreation opportunities in the Green Area is regulated under the Forest Land Use Zone, Forest Recreation Area and Forest Trail Regulations (Alberta Regulations 343/79) under the Forest Act. Recreation opportunities are also provided by forestry companies under forest management agreements such as those established by Champion Forest Products Ltd. in the Hinton area.

The forest sector has traditionally seen itself as producing extrinsic benefits such as timber and range production, but has more recently acknowledged its increasing role in providing intrinsic benefits through recreation (Alberta Energy and Natural Resources 1982a). The extent to which this change in philosophy is genuinely accepted throughout the forest industry is difficult to assess (see Swinnerton 1984). For example, recently proposed forest projects in the boreal forest of northern Alberta include extensive areas which are not currently included in integrated resource management plans (Renewable Resources Sub-Committee 1990).

Fish and Wildlife

Many of the benefits derived from parks and outdoor recreation are associated with consumptive and non-consumptive activities involving fish and wildlife (see Chapter Three, Renewable Resources Sub-Committee 1989). The recreation participation patterns of Alberta households in 1988 reveal that almost half (49.7 percent) of the households contained members who fished and over one-fifth (22.1 percent) reported that household members went hunting. In addition, the same survey by Alberta Recreation and Parks (1989b) shows that the enjoyment of nature, which invariably involves wildlife, is one of the most important reasons expressed by Albertans for participating in many outdoor recreation activities. Wilderness and outdoor adventure involving hunting and fishing in the remoter areas of the province are also considered to have tourism potential for provincial, national, and international markets (I.D. Systems Ltd. 1984).

Legislation and policy relating to fish and wildlife at the provincial level primarily concern the Wildlife Division within the Department of Forestry, Lands and Wildlife. The Wildlife Act and related regulations enable the establishment of wildlife and game bird sanctuaries. A significant evolution of policy regarding fish and wildlife in

the province was the release of a *Fish and Wildlife Policy* for Alberta (Alberta Energy and Natural Resources 1982b). Included within the policy document is a "fish and wildlife outdoor recreation policy." The policy (Alberta Energy and Natural Resources 1982b:5) refers to the fact that one of the planning priorities of the division must be to identify very rare, scarce, or special forms of fish and wildlife outdoor recreational opportunities and to ensure that access to these opportunities continues to be available to all Albertans.

One of the criticisms of the Fish and Wildlife Division in the past was its apparent preoccupation with the consumptive (that is, hunting and fishing) economic aspects of fish and wildlife management, at the expense of the non-consumptive or appreciative interests such as photography, nature study, interpretation, and bird watching. More recently there has been evidence of a broader perspective to fish and wildlife management in the division. The report *Status of the Fish and Wildlife Resources in Alberta* (Alberta Energy and Natural Resources 1984b) included specific reference to Alberta's endangered, threatened, or rare species and in 1985 *A Policy for the Management of Threatened Wildlife in Alberta* (Alberta Energy and Natural Resources 1985a) was produced by the Fish and Wildlife Division. In addition the Buck for Wildlife program and departmental co-operation with Ducks Unlimited (Canada) in the Wetlands for Tomorrow program contribute to the broader amenity value of the countryside both in terms of habitat diversity, the presence of wildlife, and landscape aesthetics.

Provincial and private sector initiatives are also complemented through the involvement of the Canadian Wildlife Service in programs such as the North American Waterfowl Management Plan and the establishment of national wildlife areas (see Renewable Resources Sub-Committee 1989).

Despite the apparent compatibility between outdoor recreation and fish and wildlife, a number of tensions exist. First, there is the issue of whether or not hunting should be allowed within protected areas. Hunting interests, including many members of the Alberta Fish and Game Association, consider that hunting is a legitimate activity within protected areas. Most people as evidenced from the provincial park visitor survey and Alberta household survey consider that it is not an appropriate activity (see Swinnerton 1987; Dunn 1986).

Second, debate continues over the impact of various forms of outdoor recreation, especially mechanized recreation, on wildlife and wildlife habitat (see Ittner, Potter, Agee, and Anschell 1979; Wall and Wright 1977).

Third, many environmentalists remain unconvinced that non-game species are given adequate attention in fish and wildlife management practices. Habitat management geared towards game production programs can in some instances prove deleterious to non-game species.

Finally, concern has also been expressed by environmentalists over the hunting of certain wildlife when the total number of animals is uncertain and where, as a result, the animal population may be reduced below a viable level. The availability of permits for hunting grizzly bear in the Kananaskis area in 1987 is one such example.

Wetlands

Wetlands make significant contributions to the amenity value of the rural landscape and have important implications for wildlife, which in turn provide for consumptive and non-consumptive recreation opportunities (Usher and Scarth 1990). Moreover, specific interest groups or recreation organizations have been important in the conservation and establishment of wetlands. For example, Ducks Unlimited has contributed to the enhancement of wetlands to improve duck habitat for hunting interests. In contrast, the removal or destruction of wetlands invariably reduces the overall recreation potential of an area.

Excessive recreation activity, whether consumptive or non-consumptive, can compromise and ultimately destroy many wetland habitats through the deterioration of water quality, bank

erosion, and the removal of less tolerant vegetation (see Wall and Wright 1977).

Species Protection

The designation of protected areas such as national and provincial parks, ecological reserves, wilderness areas and natural areas makes it possible to protect endangered species as well as providing opportunities for wildlife-oriented recreation activities. However, recreationists and wildlife can be in conflict as a result of habitat change due to the impact of recreation on soils, vegetation, and water quality.

An important aspect of the interaction between outdoor recreation and the protection of biological diversity and endangered species is that the type and level of human activity may have to be limited in critical areas. Non-consumptive activities, such as education and/or interpretive programs may not be appropriate in certain circumstances. Closed reserves where access by the general public is prohibited is a legitimate management strategy.

Mineral Extraction

Mineral extraction is generally incompatible with park and outdoor recreation interests. Areas which are important for outdoor recreation frequently owe their significance and attractiveness to their geological features but these features often have mineral deposits which are economically exploitable (see McLellan 1983). For example, the Rocky Mountains and the adjacent Eastern Slopes contain limestone and coal deposits which have made important contributions to the economy of Alberta. Some glacial deposits in the Edmonton region, like the Cooking Lake Moraine, are important sources of sand and gravel. Their undulating topography and vegetative cover contrast with the surrounding aspen parkland, making these areas highly-sought after for informal outdoor recreation opportunities and the siting of country residential subdivisions (Swinnerton 1982). The potential for conflict between mineral and recreation interests is enhanced by the fact that both interests derive advantages from being located near centers of population.

Mining operations, like open pits or quarries, result in considerable disruption of the immediate environment (Energy and Non-Renewable Resources Sub-Committee 1989). These changes often result in changes in the quantity and quality of surface and subsurface water which are likely to have negative repercussions for fish and wildlife populations. Other considerations are the impacts from blasting and drilling, mineral processing and trucking, including noise and air pollution, and deterioration of landscape aesthetics. Marshall (1982) has observed that, although a mining site may be relatively localized, the shadow effect in the surrounding area is far more extensive than is frequently acknowledged. The indirect effects of mining through the establishment of an extensive infrastructure, including "new" mining towns in some instances, can introduce recreation pressures into an area due to the influx of workers and their families. Fort McMurray exemplifies this situation.

Despite improvements in mining operations through planning to minimize environmental impacts and to ensure the subsequent rehabilitation of sites, there is at least an interim disruption of environmental quality.

The results of some mining operations can make positive contributions to the provision of selected recreation opportunities. For example, wet gravel pits can provide the basis for a wide variety of water-based recreation activities and these areas can also be rehabilitated and managed to make them important sites for waterfowl. Dry quarries and pits provide useful *sacrifice* areas for high impact recreation activities such as trail bike riding, dune buggies, and other forms of off-road vehicle activities. An advantage of these areas is that the configuration of a pit or quarry helps to confine noise and visual impact.

Oil and Gas

The development of oil and gas resources impacts the environment in a number of ways. During the initial exploration and development phase there is clearance at well sites and disturbance resulting from the cutting of seismic lines and the building of access roads. These roads can result in negative effects similar to those resulting from logging roads (see Forestry section in this chapter). Depending on the drilling intensity, the impact on the ecology and visual attributes of an area can vary considerably. The establishment of pipelines has limited impact on the environment if restorative work after laying the pipeline has been properly carried out. An area of concern associated with sour gas extraction is the impact of emissions on wildlife and the personal safety of the recreationist.

Oil and gas would appear to have substantially less impact than other resource extractions. However, it is evident that a large majority (81 percent) of provincial park visitors consider that oil and gas exploration and development are not appropriate activities within provincial parks and recreation areas (Swinnerton 1987). Another indication of the concern that the extraction of oil and gas compromise wilderness values is the reaction to step-out wells in the prime protection zone of the Eastern Slopes. At a broader level of consideration the oil and gas industry has made an important indirect contribution to the provision of recreation opportunities in Alberta through the Heritage Trust Fund. The Urban Parks Program for instance is funded by the Heritage Trust Fund.

Urban Development

The urban environment contains a diversity of leisure settings associated with both urban open space and built facilities provided by the public and private sectors. The link between the urban environment and protected areas set aside for heritage resource protection and for outdoor recreation is to a large extent based on the fact that most park visitors and outdoor recreationists are urban dwellers. The Alberta Recreation and Park's 1984 visitor opinion survey showed that 76 percent of the visitors to Alberta's provincial parks and recreation areas originated from towns and cities within Alberta.

However, most leisure time is spent within the confines of a person's immediate urban environment. Urban planners need to accommodate the concept of amenity environments into the planning and design of the home environment, the residential subdivision, and the wider urban fabric. Consequently, municipal authorities should consider open space, particularly in the natural form, as a positive attribute of the urban environment rather than as a non-use or inefficient use of land (Urban Environment Sub-Committee 1988).

Planning should ensure a positive use of open space which incorporates social, ecological, and amenity values. Urban parkland can serve a variety of recreation functions and recent developments such as stormwater lakes demonstrate how engineered structures can provide a variety of recreation and amenity benefits (Swinnerton and Hinch 1987). Urban parks, particularly those on the scale of the Capital City Park in Edmonton, Fish Creek in Calgary, and parks established under the Urban Parks Program in other communities in Alberta, also offer rewarding opportunities associated with the protection of the heritage of an area. Urban parks also provide environments in which people can gain and practice skills which they can use to advantage when visiting more natural parks and areas outside the urban boundary. Recently, the application of ecological principles and processes to urban park management has demonstrated economic advantages as well as the benefits of ecological diversity and stability within the urban environment (Hough 1984).

The long-term future of many areas of urban space, however, remains uncertain. History has shown that incremental encroachment on green

open space is a ubiquitous process promoted by both the urban administrators and by private and commercial interests. In smaller urban communities, there is the perception that the surrounding rural environment is more than adequate to accommodate open space needs.

Improved linkage between the town and countryside can often be achieved by the use of abandoned railway lines. Such open space corridors can serve linear recreation opportunities as well as providing ecological linkages between environmental reserves. More effective siting of reserves could enhance this aspect.

Countryside both within and beyond the rural-urban fringe provides important recreation space for the urban resident. Heavy use of both public and private space and facilities frequently results in substantial costs for rural municipalities near large urban centers (see Swinnerton 1982). A fully integrated regional parks system has been adopted in other parts of Canada to address the imbalance between demand and supply in such areas. Another manifestation of urban recreation encroachment into adjacent rural areas is the development of country residential sub-divisions which illustrates the potential conflict between the availability of private open space for the individual and public open space for the urban population as a whole (Swinnerton 1982). In addition, the directing of socially less-desirable land uses, such as landfill sites, to the rural-urban fringe can lead to the deterioration of this important recreation resource.

Historic Resources

Historic resources should be an integrated part of any provincial conservation-outdoor recreation system in Alberta. The Historical Resource Division of Alberta Culture and Multiculturalism coordinates both government and public efforts to preserve, study, and interpret to the public the evidence of Alberta's human and natural history (Landals 1988). In addition, Alberta Recreation and Parks (1986:8) in the revised draft of its Policy Statement states that "...cultural and historical landscapes and features do comprise important elements of the lands administered by the ministry and are, by definition, included within heritage resource protection." The historical and cultural component is presented in a number of high profile parks, for example Peter Lougheed, Writing-on-Stone, and Dinosaur, but the historical aspect of the landscape has not been recognized to its full potential (Swinnerton 1984).

Historic resources may be considered to occur along a hierarchical continuum. The World Heritage Site of Head-Smashed-In Buffalo Jump is internationally significant whereas Rocky Mountain House National Historic Park is of national significance. There are also a wide range of sites specifically at the provincial level (for example, the Crowsnest Pass Historical Corridor, Fort McLeod/Fort Hooper and Fort George/Buckingham House) and sites of primarily regional or local significance (see Landals 1988). These historic resources illustrate themes which are identified in the *Master Plan: Prehistoric and Historic Resources* (Alberta Culture 1980). The Master Plan provides a framework for making systematic decisions about historic resource protection, interpretation and development in the province.

Individual regional planning commissions have used the themes identified in the Master Plan as a basis for examining historic resources at the regional level. One example is a study undertaken for the Calgary Regional Planning Commission (Lamoureux, Chow, and Reeves 1983). Interest in the conservation of historic resources at the regional and local level is also demonstrated by the Red Deer Regional Planning Commission (1985). The involvement of local preservation groups such as the Old Strathcona Foundation in Edmonton reflects a growing awareness of identity that is achieved by recognizing and promoting an area's heritage and the economic benefits which may accrue from related tourism (see Landals 1988).

The Position and Policy Statement on Tourism (Government of Alberta 1985:19) notes that "historical resources are now visited by well over two million people annually" but considerable opportunities exist for further development of historic resources if tax incentives are applied to encourage private investment. Appropriate forms of tourism and recreation which are sensitive to the requirements of the on-site protection of historic resources are required. Coordination between the main provincial government departments involved in this area (Alberta Culture and Multiculturalism, Alberta Recreation and Parks, and Alberta Tourism) is essential if the correct balance between protection and use is to be achieved.

Water Resources

Water resources provide important opportunities for recreation and tourism, and strong public pressure will continue to advocate the need to protect rivers and streams with high scenic and recreation values.

The *Inquiry on Federal Water Policy – Final Report* (Pearse, Bertrand, and MacLaren 1985) observed that:

> *Water-based recreation does not usually involve withdrawing or consuming water, but a variety of recreational activities are sensitive to site features such as surface area, depth, rate of flow, quality, temperature and accessibility.* (Pearse, Bertrand, and MacLaren 1985:4)

The relevance of the observation in the Alberta context is clearly demonstrated in the report, *South Saskatchewan River Basin Planning Program: Summary Report* (Alberta Environment 1984) and the study, *Water Based Recreation and Tourism Components: North Saskatchewan River Basin Study* (Stewart, Weir and Co. 1986). The sensitivity of different recreation activities to water characteristics varies depending on the nature of the activity. Water-oriented activities are frequently grouped into three broad categories: (1) primary use – those activities which require direct contact with the water and total or partial immersion on a continual basis, (for example, swimming, scuba/skin diving, wind surfing, water skiing); (2) secondary use – those activities done on the water and which require the medium of water but not necessarily direct contact or immersion (for example, fishing/ice fishing, canoeing, kayaking, power boating, rafting, sailing); and (3) tertiary use – land-based activities which are enhanced by the presence of water (for example, cottaging, camping, picnicking, hiking, nature interpretation). Primary and secondary activities are, for the most part, more vulnerable and sensitive to changes in water conditions (brought about by alternative water users and associated management impacts) than are tertiary activities.

Issues related to the interaction of resource protection, water-based recreation and water resources are numerous and complex. Protected areas such as parks or the prime protection zone in the Eastern Slopes can be important in safeguarding watershed areas. On the other hand, the proposed dam on the Slave River would have resulted in the flooding of part of Wood Buffalo National Park. A concern expressed by many environmentalists is the fact that Alberta is one of the few provinces in Canada which has not become a signatory of the federal/provincial heritage rivers program. The negative reaction to the building of the Oldman Dam in southwestern Alberta is in part based on the fact that this development would reduce even further the number of "naturally" flowing rivers within the province. In this context the Stewart, Weir and Company (1986) study of the North Saskatchewan River Basin noted that there was considerable concern for the poor water quality of the North Saskatchewan River and fluctuating flow rates caused by dam releases. In addition, municipal/industrial discharges were considered to have a significant effect on recreational opportunity.

Lakes in Alberta are unevenly distributed across the province, and there is a shortage of high quality shorelands within convenient travel times of major urban centers (see Swinnerton 1982). Almost 70 percent of the province's Class 1 recreation shoreline occurs in northeast Alberta (Alberta Energy and Natural Resources 1985b). The *Lakeland Sub-Regional Integrated Resource Plan* (Alberta Energy and Natural Resources 1985b) recognized recreation as the highest priority use in the area. The array of recreational opportunities anticipated for the region ranges from major destination areas with appropriate facility development to wilderness recreation opportunities.

In southern Alberta the virtual absence of natural lakes means that reservoirs take on important roles for recreation. The position of Alberta Environment regarding the public use of its reservoirs is to accommodate the demonstrated need for facilities or where public pressure to use the reservoir can be expected. Provision for recreation at the Saint Mary Reservoir near Lethbridge and the Dickson Dam site near Innisfail illustrate the application of this policy. Problems, however, do arise with the recreational use of reservoirs. These include: (1) day-use facilities being utilized on an impromptu basis for overnight camping with the attendant increased operation and maintenance costs; (2) public pressure to limit the magnitude and/or frequency of water level fluctuations; and (3) the conflict between public access to reservoir shorelines and the restricted access desired by private and commercial recreation facilities adjacent to reservoirs. Alberta Environment frequently does not control sufficient land to adequately meet the needs of various interest groups.

Although reservoirs may provide important water-based recreation opportunities, there are frequently considerable environmental and socioeconomic impacts both during construction and as a result of land being flooded. During construction, there is environmental degradation involving earth removal, potential water pollution of the existing river, and disturbance of vegetation and wildlife populations. The reservoir behind the dam changes the hydrological regime and character of the river both upstream and downstream, which has repercussions for water-based activities. The reservoir also causes a loss of wildlife habitat and sites of historic or prehistoric importance as well as the abandonment of farmland.

The relationship between recreation and water resources has been summarized by Alberta Environment (1984):

> *No rivers or reservoirs in the South Saskatchewan system are managed principally for recreational use. Some minimum water levels for recreation are recognized on certain irrigation and hydroelectric reservoirs... As long as there are no conflicts with the principal use, the reservoirs are operated at these levels during the summer recreation season.*
>
> *Management of the river system to provide the most desirable conditions for recreation would impose restrictions on the diversion of water for other uses, or waste disposal, and on the operation of storage reservoirs.* (Alberta Environment 1984:34-35)

Tourism

Any attempt to distinguish between recreation and tourism is plagued by imprecise terminology — both are phenomena of leisure behavior and activity (see Mathieson and Wall 1982). Although many people perceive travelling as being the distinguishing characteristic of tourism, the statement that "tourism can be defined as the actual travelling, as well as activities participated in and services used by an individual beyond an 80 km radius from home, for purposes other than daily travel to and from work" (Bloomfield 1986:9) does not distinguish it from the spatial behavior pattern of many recreation activities. As a result, many of the comments made previously about recreation in this report apply equally to tourism

with regard to demand and supply issues as well as the impact on the resource base (see Mathieson and Wall 1982; Wight 1988).

Although attention has been drawn to the advantages of a tourism-recreation partnership (Alberta Tourism 1988; Nish 1984), few studies have really examined the impact of tourism on the recreation patterns of the local residents in the destination area. Conflicts between the recreation needs of the local population and the needs of tourists are revealed in the physical congestion and overuse of services and the adjustment of programs and prices to accommodate the needs of the tourist rather than the local recreationist. Where the resource base is the fundamental attraction, the demands of the tourist superimposed on those of local recreationists can result in the carrying capacity of the area being exceeded at an earlier stage than would otherwise have been the case.

However, the interaction between tourism, parks, and outdoor recreation is much more critical in terms of environmental conservation. There is continuing debate over whether or not the relationship between tourism and the environment is a harmonious or conflicting one (Canadian Society of Environmental Biologists 1986). Budowski (1976:27) has suggested that the relationship between tourism and environmental conservation can take three forms: (1) co-existence as a result of minimal interaction between tourism and conservation; (2) a mutually supportive or symbiotic relationship; and (3) a conflict situation where tourism introduces detrimental effects to the environment. The reality is that a state of co-existence rarely remains static and, as a result, the relationship invariably progresses towards one of symbiosis or conflict. Numerous examples may be cited where the provision of selected tourism and outdoor recreation activities has been an important motivating factor in the conservation of natural and cultural resources (Swinnerton 1989).

Historically, the establishment of national parks in Canada, and specifically parks such as Banff and Jasper, was largely based on their tourism potential (Bella 1987) and the economic argument associated with the tourist industry continues to be a persuasive force for the establishment and subsequent operation of parks and other protected areas (see Bella 1987; Bloomfield 1986; Pannell Kerr Forster 1986).

The growth of adventure travel and wilderness or eco-tourism reflects a demand being exercised by both a Canadian and international market. It is estimated that over one-third of Canadians want vacations involving adventure, outdoor activity and excitement (Outdoor Recreation Council of British Columbia 1988). In British Columbia the wilderness tourism industry generates $135 million annually (Wilderness Tourism Council 1988). Parks and other protected areas provide the appropriate natural settings for many of these activities (see Wight 1988) but constant vigilance and appropriate planning must be exercised to ensure that the landscape and wildlife are not negatively affected (Downie and Peart 1982; Renewable Resources Sub-Committee 1989).

Although the promotion of tourism involving wilderness areas through such activities as trail riding, guest ranches, fly-in fishing, and float trips has been undertaken by Alberta Tourism for a number of years, a recent study by Prism Environmental Service Ltd. (1989) has suggested that wilderness tourism remains poorly developed (see Renewable Resources Sub-Committee 1989).

Evolution of national parks policy has resulted in priority being put on national heritage resource protection (Parks Canada 1979). Consequently, it is critical to distinguish between those types of tourism which are compatible and supportive of heritage conservation and those elements which disrupt and detract from heritage conservation by introducing "alien" elements into the park setting. Intrinsic forms of development are supportive of the resource protection role of parks for they help to explain and retain parks as special places. Extrinsic developments, such as major resort destinations, tend to overwhelm the integrity and character of an area and relegate heritage resource protection to an incidental

aspect of the park experience (Sax 1980). The Government of Alberta's (1985:19) position that "...it is essential that new National Parks' policies complement the needs of tourism and permit modernization and expansion where required" has caused concern among many environmental interest groups. Even where policy level pronouncements have advocated the importance of protecting the heritage resources upon which many forms of tourism depend, it is frequently difficult to get the individual entrepreneur to distinguish between intrinsic and extrinsic forms of tourism development.

Alberta Recreation and Parks (1986) sees provincial parks as having a tourism objective and, as a result, the appropriate balance between protection and development becomes an important issue. In the case of both provincial and national parks, the magnitude and significance of the issue reflects the different perceptions and value systems of the interest groups involved. However, the high priority that some tourists place on their destination's cultural and natural heritage has justifiably prompted Romeril (1985:215) to observe that "the message is clear, ruin the natural attractions (resources) of popular destinations and a major reason for their popularity is eliminated."

Chapter Seven

Legislative and Regulatory Regime

Government policy and legislation affect the provision of outdoor recreation opportunities and the establishment and management of parks and other protected areas. The purpose of this chapter is to identify selected legislation and specific components of the decision-making environment which have particular relevance to the sustainability of parks and outdoor recreation and their contribution to Alberta's conservation strategy.

Studies that have examined the delivery of leisure services (Burton and Kyllo 1974; Makale and Kyllo Planning Associates Ltd. 1978) and conservation (Swinnerton 1984) in Alberta have noted the different levels of mandate under which provincial agencies operate. These mandates are: (1) primary – specifically required to provide a particular service; (2) secondary – permitted but not required to provide a particular service; and (3) tertiary – able to undertake a service through responsibilities that are not directly related and do not specifically refer to recreation or parks. This review of relevant federal and provincial legislation focuses on those items of legislation that influence primary and secondary mandates.

FEDERAL LEGISLATION

National Parks Act

National parks are established by amending the National Parks Act (1970). The Canadian Parks Service administers the Act in order to:

> *...protect for all time representative natural areas of Canadian significance in a system of national parks, and to encourage public understanding, appreciation and enjoyment of this natural heritage so as to leave it unimpaired for future generations.* (Parks Canada 1979:38)

The National Parks Act also allows for the creation of national historic parks by Order-in-Council. The objective of national historic parks is:

> *...to protect for all time representative resources at places associated with persons, places and events of national historic significance in a system of national historic parks, and to encourage public understanding, appreciation and enjoyment of this historical heritage so as to leave it unimpaired for future generations.* (Parks Canada 1979:38)

In December 1986, Bill C-30 was introduced to amend the National Park Act which had not been significantly altered since it was enacted in 1930. Bill C-30 came into force on September 16, 1988 and strengthens the ability of the Canadian Parks Service to resist pressures which are threatening parts of the system. The amended Act provides legislative authority for wilderness zones. Park management plans must be tabled in Parliament and reviewed every five years. To ensure that plans respect the goals of the Canadian Parks Service, the amended Act states:

> *Maintenance of ecological integrity through the protection of natural resources shall be the first priority when considering park zoning and visitor use in a management plan.*

The Parks Canada Policy (Parks Canada 1979) is currently under review.

Canada Wildlife and Migratory Birds Convention Acts

Under the Canada Wildlife Act (1973) and the Migratory Birds Convention Act (1980), the Canadian Wildlife Service within Environment Canada is responsible for the protection and management of migratory birds, and with the agreement of the provinces, other wildlife and their habitats through the designation of national wildlife areas and migratory birds sanctuaries. The overall management objectives of areas designated as natural wildlife areas are to protect and maintain the habitats which are vital to wildlife and improve them where necessary for wildlife use. Migratory birds sanctuaries protect important staging and nesting areas (see Renewable Resources Sub-Committee 1989).

Fisheries Act

Management of provincial fisheries and protection of fish habitat are carried out by the Fish and Wildlife Division, Alberta Forestry, Lands and Wildlife under the provisions of the federal Fisheries Act. Provincial staff exercise their responsibilities for recreational fisheries management to meet the objectives of Canada's Policy for Recreational Fisheries. These include: (1) conserve, restore, and enhance recreational fisheries and the habitat on which they depend; (2) maintain a high quality and diversity of recreational fishing opportunities; (3) encourage a viable recreational fishing industry; and (4) promote tourism (Fisheries and Oceans Canada 1988). A *Fish and Wildlife Policy for Alberta* was released by Alberta Energy and Natural Resources in 1982. The policy acknowledges that the Fish and Wildlife Division has the responsibility to manage fish and wildlife resources as an entity within a provincial outdoor recreation system.

Environmental Assessment and Review Process

The consequences of any proposed project, program or activity under federal management and control or on federal lands must be considered in terms of its environmental and social effects. The Environmental Assessment and Review Process (EARP) was established by the federal cabinet in 1973 and adjusted in 1977. In 1984, the process was strengthened and updated when the Environmental Assessment and Review Process Guidelines were issued by an Order-in-Council under the Government Organization Act. Environment Canada is continuously monitoring the effectiveness of the EARP.

PROVINCIAL LEGISLATION

Provincial Parks Act

The Provincial Parks Act (1980) and the Provincial Parks Amendment Act (1983) allow the Minister of Recreation and Parks to acquire and designate land that is owned by or leased to the Crown as a provincial park or provincial recreation area.

The purposes of provincial parks and provincial recreation areas as stated in the Provincial Parks Act are as follows:

> *Provincial Parks shall be developed and maintained: (a) for the conservation and management of flora and fauna; (b) for the preservation of specified areas and objects therein that are geological, cultural, ecological, or other scientific interest; and (c) to facilitate their use and enjoyment for outdoor recreation. Recreation areas shall be developed and maintained to facilitate their use and enjoyment for outdoor recreation.* (RSA 1980 cP-22 s3, s4)

The *Policy Statement for the Ministry of Recreation and Parks Revised Draft* (Alberta Recreation and Parks 1986) establishes the general policy directions for Alberta Recreation and Parks. However, this document together with the *Foundation for Action* report (Alberta Recreation and Parks 1988c) and the *Parks in the 1990s* statement (Alberta Recreation and Parks 1988b) are presently under review by the current Minister.

Wilderness Areas, Ecological Reserves and Natural Areas Act

The Wilderness Areas, Ecological Reserves and Natural Areas Act (1980) is jointly administered by the Department of Forestry, Lands and Wildlife and the Department of Recreation and Parks. The Act ensures that certain areas of Alberta are protected and managed for the purposes of preserving their natural beauty and safeguarding them from impairment and industrial development. The Act recognizes that varying degrees of protection are needed to provide for the benefit and enjoyment of present and future generations.

The Act clarifies the relationship between the three categories of protected areas (wilderness areas, ecological reserves, and natural areas) and prescribes the nature of the uses/non-uses of these areas and reserves. The Minister of Recreation and Parks is responsible for establishing wilderness areas and ecological reserves, whereas the Minister of Forestry, Lands and Wildlife administers the natural areas program.

Willmore Wilderness Park Act

The Willmore Wilderness Park Act (1959) is administered by the Minister of Forestry, Lands and Wildlife and establishes the Willmore Wilderness for the "use of people of Alberta for their benefit, education and enjoyment and shall, by the management, conservation and protection of its natural resources and by preservation of its natural beauty be maintained for the enjoyment of future generations." Unlike the three provincial wilderness areas, fishing is allowed in the Willmore Wilderness Area.

Public Lands Act

The Public Lands Act (1980) is administered by the Department of Forestry, Lands and Wildlife and governs the use and disposition of public lands. It has relevance for protected areas and outdoor recreation in a number of ways. The Act ensures that the title to the beds and shores of all permanent and naturally occurring bodies of water and all naturally occurring rivers, streams, watercourses, and lakes is vested in the Crown.

The Public Lands Act also gives the Minister "the power to set aside public land for use as a provincial park, historical site, natural area, ecological reserve, wilderness area, forest reserve, forest recreation area, game preserves, bird sanctuary, public shooting ground or public resort or for the development of any natural resource." The Minister may classify public land and declare the use for which he considers different classes to be adaptable. The Act also provides for the leasing of public lands which could be for recreation purposes.

The allocation of public lands and resources in Alberta is facilitated by integrated resource management which "... endeavours to optimize use of the provincial resource base to achieve maximum benefits for Albertans, now and in the future" (Alberta Energy and Natural Resources 1983:3; Cottrell 1985). The Resource Evaluation and Planning Division of the Department of Forestry, Lands and Wildlife was formerly responsible for coordinating the development of integrated resource management plans. Effective December 1, 1987, the responsibilities of the Resource Evaluation and Planning Division were reassigned to other divisions within the department.

To the extent that the Public Lands Act specifies restrictions and dispositions of public lands and the designation and management of grazing leases, the Act has important implications for access to and the recreation use of such land. Other relevant statutes which relate to the issue of access and trespass include: Common Law; the Criminal Code (federal); the Petty Trespass Act; and the Wildlife Act (see Swinnerton 1982). The Grazing Lease Task Force (1987) noted that the issue of access to public lands is complicated by the apparent conflict between the various Acts and that the issue needs to be resolved.

Wildlife Act

Section 96 of the Wildlife Act (1984) provides for the establishment of wildlife sanctuaries and habitat development areas and for classifying wildlife sanctuaries into those for the benefit of all wildlife or those for prescribed kinds of wildlife. The Act also allows the Minister of Forestry, Lands and Wildlife to make regulations concerning the access, use, control, and management of wildlife sanctuaries, habitat development areas, migratory bird lure sites, and wildlife control areas. Programs to protect and enhance fish and wildlife in Alberta and their habitat are facilitated through the Fish and Wildlife Trust Fund established under this Act.

The *Fish and Wildlife Policy for Alberta* (Alberta Energy and Natural Resources 1982b) defines the role and responsibility of the Fish and Wildlife Division with respect to outdoor recreation in Alberta.

Forests Act

The Forests Act (1980) enables the Minister of Forestry, Lands and Wildlife, through the Alberta Forest Service, to manage the public lands in the forested or Green Area of the province. The Forest Act emphasizes the management of the timber resource through the issuing of forest management agreements, timber quotas, timber licenses and timber permits. Within the Alberta Forest Service, the Forest Land Use Branch is responsible for directing and coordinating the integrated resource management of Crown lands in the Green Area. These responsibilities include watershed management, providing grazing for domestic livestock, and the protection of recreation resources such as scenic landscapes, rivers, lakes, and wildlife regions (Renewable Resources Sub-Committee 1990).

The Forests Act (RSA 1980 s11) specifically states that the Minister may construct and maintain forest recreation areas and forest recreation trails. In the "Forest Land Uses" part of the Act, Section 46 enables the Lieutenant Governor in Council to make the following regulations:

a) declaring any area of forest land to be a forest land use zone;

b) permitting, prohibiting, regulating, or controlling uses of land in forest land use zones;

c) declaring any area of forest land to be a forest recreation area or forest recreation trail;

d) governing the use of forest recreation areas or forest recreation trails and prohibiting, regulating or controlling activities in them;

e) establishing fees payable to the Minister for the use of forest recreation areas or forest recreation trails.

The designation of Forest Land Use Zones under the authority of Section 46 of the Forests Act provides an important mechanism for controlling the use of environmentally sensitive areas. All of the existing forest land use zones are located in the Eastern Slopes and comply with Eastern Slopes Policy.

One of the important features of Forest Land Use Zones designations, relative to the zoning under the Eastern Slopes Policy, is that contravention of the regulations is an offense under the Forests Act.

The *Alberta Forest Service Recreation Program Goals, Policies, Long Range Objectives, Priorities and Budget Guidelines* (Alberta Energy and Natural Resources 1982a) describes the Alberta Forest Service's responsibility with regard to outdoor recreation and amenity conservation.

Department of the Environment Act

The Department of the Environment Act (1980) provides for the establishment of the Department of Environment with a wide range of interests and responsibilities relating to environmental conservation, including: (1) the conservation, management and utilization of natural resources; (2) the prevention and control of pollution of natural

resources; (3) the preservation of natural resources for their aesthetic value; and (4) laws in force in Alberta that relate to or that directly or indirectly affect the ecology of the environment or natural resources. The Act includes provision for the establishment of a Natural Resources Coordinating Council and a Conservation Utilization Committee.

Section 16 of the Department of the Environment Act (RSA 1980) allows for the establishment of Restricted Development Areas or water conservation areas. These areas may be designated for a number of purposes including: (1) retaining the environment of the area in a natural state or in a state suitable for recreation or the propagation of plant or animal life; and (2) preventing the deterioration of the quality of the environment of the area by reason of the development or use of land in the area incompatible with the preservation of the environment. To date, most Restricted Development Areas have been established to protect transportation and utility corridors.

Alberta Environment is also responsible for the Alberta Environmental Impact Assessment system authorized by the Lands Surface Conservation and Reclamation Act (1980). The Minister of the Environment has the discretion to require an EIA if, in his opinion, the development could have a significant adverse environmental impact. Such developments can include recreation complexes and tourism resort developments.

Historical Resources Act

The Historical Resources Act (1980) provides the Minister of Culture and Multiculturalism with a wide range of powers for the designation and protection of the historic resources of the province. Section 2 of the Act indicates that the Minister is responsible for coordinating orderly development, preservation, study, and interpretation, and promoting the appreciation of Alberta's historic resources. These responsibilities are mainly discharged by the Historical Resources Division through the Historic Resource Designation Program. The program provides for two levels of designation: (1) Registered Historic Resources – resources usually most significant to a region or community; and (2) Provincial Historic Resources – a more significant level of designation which may include a prehistoric site, natural feature, an important historic event or a significant structure (see Landals 1988).

The Historical Resources Act provides for the establishment of provincial historic areas (Section 20) and the designation of municipal historic areas (Section 23). Historic resource management is also facilitated by the establishment of a Historic Sites Board which can advise and make recommendations to the Minister concerning the preservation and protection of historic sites. Section 34 of the Act refers to the establishment of a Crown corporation, the Alberta Historical Resources Foundation. The main function of the foundation is to help support and maintain those historical resource needs that cannot be met effectively by other government bodies or private and public institutions (see Landals 1988).

Planning Act

The Planning Act (1980) provides the authority for the Minister of Municipal Affairs to control land use as it relates to the private land base in Alberta. The underlying purpose of the Act is to:

- achieve the orderly, economical, and beneficial development and use of land and patterns of human settlement, and
- maintain and improve the quality of the physical environment within which patterns of human settlement are situated in Alberta.

The Planning Act makes reference to a hierarchy of plans that can be used to achieve the orderly development of land. Regional plans provide a general statement of policies governing the future land-use pattern in a region. Municipal plans, area structure plans, or area redevelopment plans complete the hierarchy. The extent to which these plans refer to the provision of outdoor recreation opportunities or heritage conservation is largely discretionary.

The Planning Act stipulates that when land is subdivided, land must be set aside for environmental reserve and municipal and school reserve. These provisions ensure that open space, whether for school sites or public works, is an integral part of new developments.

Recreation Development Act

The Recreation Development Act (1980) enables the Minister of Recreation and Parks to promote and encourage the orderly development of recreational activities and facilities for the betterment of the people of Alberta. This Act and the Municipal Government Act are the primary legislative mechanisms for facilitating the provision of municipal recreation programs and related areas and facilities.

Recreation, Parks and Wildlife Foundation Act

The Recreation, Parks and Wildlife Foundation, a Crown corporation, was created in 1976. The Recreation, Parks and Wildlife Foundation Act (1980) indicates that the object of the foundation is to provide to persons and organizations the opportunity to donate real or personal property to the foundation to be used for:

a) the development or maintenance of recreation programs, facilities, and services;

b) the development or maintenance of parks;

c) the management, conservation or preservation of fish and wildlife.

The Park Ventures Fund is administered under the provisions of the Recreation, Parks and Wildlife Foundation Act for the purpose of obtaining private funding and donations in support of the objectives of the Provincial Parks Act and the Wilderness Areas, Ecological Reserves and Natural Areas Act.

INTERAGENCY COORDINATION AND COOPERATION

In the past, criticisms were frequently made concerning the lack of coordination in the delivery of recreation opportunities and the protection of heritage resources (Makale and Kyllo Planning Associates Ltd. 1978; Swinnerton 1982, 1984).

This situation existed despite the establishment in 1968 of the Alberta Government Recreation Committee with the purpose of providing advice to the Minister of Recreation and Parks on the coordination of interdepartmental recreation policy, planning, and program development (see Swinnerton 1984).

More recently, there has been increased recognition of the need for improved interagency coordination and cooperation in the development and delivery of a heritage conservation-outdoor recreation system. Alberta Recreation and Parks (1986) supports the Federal/Provincial Parks Conference and the Canada/Alberta Consultative Committee on Parks Matters. Alberta Recreation and Parks (1986:117) has stated that "enhanced co-ordination is necessary to ensure that resources are directed toward the achievement of commonly understood objectives and that available resources are optimally utilized."

Coordination between government departments is demonstrated by involvement in the Deputy Ministers' Heritage Resources, Recreation and Tourism Committee, the Natural Resources Advisory Council/Committee and the Historic Sites Coordinating Committee.

The Deputy Ministers' Heritage Resources, Recreation and Tourism Committee is particularly relevant to the future of protected areas and outdoor recreation opportunities in Alberta. This committee has representatives from the following ministries: Recreation and Parks, Forestry, Lands and Wildlife, Culture and Multiculturalism, Environment, Economic Development, Tourism, and Transportation. The purpose of this committee is to facilitate private sector heritage resources,

recreation, and tourism initiatives and coordinate interdepartmental planning, development, and management of heritage resources, recreation and tourism services (Alberta Recreation and Parks 1986).

NON-INSTITUTIONAL ENVIRONMENTAL MOVEMENT

Heritage conservation and outdoor recreation legislation and policy are influenced by a variety of factors relating to the political, social, and economic environment. These factors influence the level of government commitment to and the promotion of conservation as well as public attitudes and involvement in environmental and conservation matters. With the increase in interest in environmental matters in the late 1960s, many western industrialized countries, including Canada and specifically Alberta, responded by establishing a bureaucratic structure which has jurisdiction over environmental or environmentally-related policy (Swinnerton 1984). O'Riordan (1976:25), however, has suggested that "the theme of environmental quality tends to be the last to be politically recognized and remains the most vulnerable if other, higher priority objectives (for example, economic growth and employment) are threatened."

Even when environmental legislation has been introduced, there is a body of opinion which suggests that these measures have been little more than tokenism, particularly when agencies are unable or are reluctant to employ effective, punitive sanctions (see Duncan 1984; O'Riordan 1976). This situation reflects Devall's (1980:300) observation that "the dominant paradigm in North America includes the belief that 'economic growth' as measured by the gross national product, is a measure of progress." The extent to which there may be a change from a consumer to a conserver society, as suggested by Jackson (1987), has important implications for the context in which heritage conservation and outdoor recreation policies and practises evolve in the future.

From a historical perspective, the development of outdoor recreation opportunities and the promotion of a conservation ethic directed at heritage resource protection has been characterized by an active involvement by volunteers and non-government organizations (Swinnerton 1984). Not infrequently, support from such groups for the provision of opportunities for certain types of outdoor recreation has been important in the conservation of both natural and cultural resources. The roles of the Alberta Wilderness Association, the Canadian Parks and Wilderness Society, and the Alpine Club of Canada illustrate this relationship.

The current emphasis by the provincial government on economic recovery and diversification has resulted in environmental groups becoming increasingly vociferous about the protection of the environment. Notwithstanding the fact that the membership profile of many environmental groups tends to conform to the image that conservation is a middle- or upper middle-class movement (Swinnerton 1984), it would be shortsighted for policy makers to underestimate the broader level of support that conservation has achieved. For example, household surveys undertaken by Alberta Recreation and Parks in 1981, 1984, and 1988, resulted in data which illustrate strong support for heritage resource protection and this tendency is even more evident in provincial park visitor surveys (Swinnerton 1987).

Chapter Eight

Conclusion

Parks and outdoor recreation are two uses of Alberta's resource base which are particularly well-suited to illustrate resource conservation for sustainable use. The benefits to be derived from parks and other protected areas, and many forms of outdoor recreation make important contributions to the sustainability of both society's psychological and physical well-being as well as protecting natural processes on which society depends. Although more difficult to measure than the economic benefits derived from commodity resource producers, both outdoor recreation and the preservation of protected areas make important contributions to the provincial economy.

Nevertheless, the provision of outdoor recreation opportunities outside specifically designated areas depends on the willingness and cooperation of other land-use interests. In the case of parks and other protected areas, their standing as legitimate land uses continues to be begrudgingly acknowledged by many resource sector interests.

Unfortunately, parks and outdoor recreation are vulnerable if other higher priority objectives, such as economic growth and employment, are threatened. With the current emphasis on economic recovery and financial restraint within the Alberta economy, the future of parks and other protected areas remains precarious. The province's system of protection-oriented parks is only approximately 40 percent complete, and even within existing parks the intended coexistence of conservation and outdoor recreation and tourism opportunities conceals a fluctuating but generally apprehensive and tenuous relationship. Surveys involving both the public in general and park visitors in particular show stronger support for preservation and conservation than for recreation development (Swinnerton 1987), but there is constant pressure for these areas to contribute to the provincial economy through an expanded tourism function. The non-institutional players involved in conservation and outdoor recreation such as lobby groups as well as the general public have an important role to play in this debate. It is also evident that private stewardship will become an increasingly important part of heritage conservation. Similarly, positive opportunities exist for the private sector to complement the public sector in diversifying the mix of outdoor recreation opportunities in appropriate areas.

Tension will continue to exist between heritage resource protection and development for many forms of recreation and tourism opportunities. Dealing with this tension requires sensitive planning and management which take into account the diverse interests in both the parks and outdoor recreation sectors. Planning and management are further complicated when other resource users are involved. Moreover, decision making can never be entirely separated from values and matters of judgment (Walther 1986). Nelson (1979), for example, has noted that environmental questions and decisions are essentially about values. In addition, Sagoff (1981) has suggested that ethical and aesthetic principles

are needed to guide policies governing the use of land as well as the more traditional economic guidelines. As a result, the implementation of an Alberta Conservation Strategy will inevitably be characterized by compromise and accommodation of multiple preferences. The same conservation strategy must, nevertheless, ensure that parks and outdoor recreation continue to protect Alberta's heritage resources and contribute to the spiritual, aesthetic, and other non-material needs of its people.

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About Our Logo

Alberta

ENVIRONMENT COUNCIL OF ALBERTA

Over the past two decades, the logo of the Environment Council of Alberta has shown three overlapping triangles as representing the foundations of our environment: land, air, and water. These triangles also represent the three groups with which the ECA interacts: industry, government, and the public. The three triangles intersect to form a circle symbolizing the biosphere. The small triangle in the centre of the circle symbolizes these three groups joining together to work for the conservation of our environment.

In 1980, the overlapped triangle motif was used by the World Conservation Strategy to represent the three primary objectives of that document. The Alberta Conservation Strategy incorporated the triangle motif into its logo by overlaying the WCS triangles onto a three dimensional outline of Alberta. This combination of triangles with the readily identifiable outline of provinces, nations, and regions has marked conservation strategies around the world.